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THE

GEOGRAPHY OF GREAT BRITAIN.

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PART I.

ENGLAND AND WALES.

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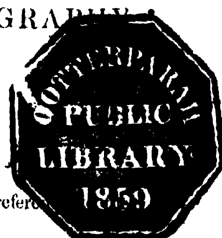
STATISTICAL DIVISION.

THE

PHYSICAL AND POLITICAL GEOGRAPHY

OF

GREAT BRITAIN.



The object of this work is to describe the British Islands with refer[ence to the] two divisions of Physical and Political Geography.

Under the head of the General Physical Geography are here comprehended—

The general form of the Coast Line.
The Mountains
The Rivers.
The Climate.

Under the head of Political Geography are here comprehended—

A brief historical sketch of the different races of men that have settled in these Islands.
The Civil and Ecclesiastical divisions, with a general outline of the Administrative Government of the whole kingdom and its divisions.
The Physical and Topographical Descriptions of the several Counties.
Statistical Tables.

The Physical Geography treats, chiefly, of the form of the surface with reference to the two great divisions of high land and low land. It is difficult to say how far any remarks on the geological character of a country should be introduced into such a geographical description as the present: wherever it has been done here, it has been from an opinion that it was useful; where it has been omitted, the omission is either intentional or owing to the want of accessible materials

The physical description is based on the Ordnance maps, as far as they go; on the best that could be found where the Ordnance Survey is incomplete; on Bradshaw's Map of Canals; Priestley's Work on Canals, &c.; on the County Surveys; the Transactions of the London Geological Society; the Work of Conybeare and Phillips on the Geology of England and Wales; and on such information as could be obtained from other books, or from individuals whose names are given at the foot of the pages. No authorities of any kind have been used, except such as are here generally or particularly indicated, or specially mentioned in the course of the work.

It is only by successive efforts that we can bring geographical description to a state of tolerable accuracy. The first step towards the accomplishment of this object is to make such an arrangement of existing materials as may indicate what is known, or what is generally accessible, and what requires to be more accurately observed.

GEOGRAPHY OF GREAT BRITAIN.

THE British possessions in Europe consist of Great Britain and Ireland, with numerous smaller islands dependent on them; the islands of Jersey, Guernsey, Alderney, and Serq or Sark off the coast of Normandy; Heligoland in the North Sea; the fortress of Gibraltar, at the entrance of the Mediterranean; and the island of Malta. The Ionian Islands form a confederation under the protection of the King of England, who is represented by a resident Lord High Commissioner.

The British Islands lie off the north-west coast of Europe, forming a kind of archipelago, consisting of two large and very numerous small islands; they are bounded on the north, west, and south-west by the Atlantic Ocean: on the south by the Atlantic and the English Channel: and on the east by the North Sea, sometimes called the German Ocean. The most northern point of Unst, one of the Shetland islands, is Lamba-ness, 60° 49′ N. lat.: the most southern point of England, the Lizard, is in 49° 57′ 30″ N. lat.: thus the group comprises 10° 51′ of latitude. Hence the sun, at the summer solstice, is about 2h 40m longer above the horizon in the northern than in the southern extremity of the Archipelago; the longest day in the British Islands, at the summer solstice, being about 18h 48m, and the shortest about 16h 8m (independent of refraction). The most eastern point of Great Britain, near Lowestoff, in Norfolk, is in 1° 46′ E. long.; the most western point of Ireland, Dunmore Head, is in about 10° 27′ W. long.: thus there are 12° 13′ of longitude, or nearly 49 minutes of time, between the extreme eastern and western points of the Archipelago.

Great Britain, which consists of the United Kingdoms of England (with Wales) and Scotland, is separated from Ireland on the west by St. George's Channel and the Irish Sea. The two nearest points of Great Britain and Ireland are the Mull of Cantire in Scotland, and Fair Head on the north-east coast of Ireland: the distance between which is 10 or 11 miles.

The island of Great Britain stretches through 8° 43′ of latitude from Dunnet Head (58° 40′ 30″ N. lat.), the northern extremity of Scotland, to the Lizard Point in Cornwall. From the meridian of Lowestoff to that of the Land's End in Cornwall (5° 42′ W. long.), there are 7° 28′ of longitude. But the most westerly points of the whole island are on the west coast of Scotland; the promontory of Airdnamurchan, near the island of Mull, is in 6° 8′ 30″ W. long.

The figure of this island has been compared to an irregular triangle, the apex of which is at Dunnet Head, and the base is the long line of the southern coast from the North Foreland in Kent, to the Land's End in Cornwall. The direct distance from Dunnet Head to the North Foreland is about 540 English miles, and to the Land's End about 600; the direct distance between the North Foreland Lighthouse and the Land's End is about 320 miles.

Owing to the great length of the island from north to south, and its long political separation into the kingdoms of England and Scotland, it is rather difficult to bring ourselves to consider it as a physical whole, independent of arbitrary divisions. But when so considered, Great Britain is, without doubt, one of the most interesting islands on the face of the globe, presenting, in its immense extent of sea coast, and the variety of its surface, its plains, mountains, rivers and lakes, one of the most instructive studies for the geographer. On inspecting a large map, we observe that, though its whole outline is irregular, this irregularity is most striking along the western coast, and particularly on the north-western coast; that nearly all its large streams enter the sea on the east or west side; that the northern portion of the island is more mountainous; and that, as a general rule all through the island, and particularly in England, the most mountainous regions are on the *west* side of the island. Some of the highest points in the whole island, however, those in which the sources of the Avon (a tributary of the Spey) lie, are somewhat nearer to the east than the west coast. Connected with this phenomenon of mountain position is the distribution of the smaller islands around the main mass. On the east

coast, we find, as a general rule, no islands except a few of very inconsiderable size; nor any on the south coast, with the exception of the Isle of Wight, and a few insignificant islets. The Scilly islands, which belong to Cornwall, are the first indication of the prolongation of the angular points of the island, as exhibited in detached masses. From the Capes of Cornwall to the Firth of Clyde, we find a coast exceedingly irregular, often bold and rocky, but still preserving a general continuity. But with the Firth of the Clyde commence those deep indentations of the sea, which run far into the land, forming a most irregular outline of coast, and entirely detaching large masses of land, such as the islands of Mull and Skie. The Orkneys and the Shetlands may be considered as prolongations of the island from its northern extremity.

Before we proceed to a more minute consideration of Great Britain, we shall enumerate the groups of dependent islands which will require a separate description. On the northern coast, and separated from Scotland by the tempestuous channel of the Pentland Firth (through which the tide rushes with the irresistible impetuosity of a tremendous stream), are the Orkneys, the Orcades of the antient geographers. The narrowest part of the strait is about five miles and a half between Duncansby Head and the southern point of Ronaldsha Island. From this point, the group, which consists of ten principal and numerous smaller islands, stretches northwards for about 45 miles. They lie between 58° 44′ and 59° 21′ N. lat. The Shetlands, or Zetlands, pronounced Yetlands*, lie north and east of the Orkneys, between 59° 51′ and 60° 49′ N. lat. They consist of one large island called Mainland, and many smaller adjacent islands, with numerous rocks, the remains of larger masses. This group, like the Orkneys, is exposed to most violent storms, and the coasts are in many parts in the course of continual destruction from the action of the sea.

The large islands of Skie, Mull, and others lying close to the west coast of Scotland, must be strictly considered as adjuncts of the mainland; but still farther to the west, and separated from the Scotch coast by the channel of the Minsh, we have the Hebrides or Hebudes, which in their actual state form a small archipelago. They lie between 56° 43′ and 58° 33′ N. lat., forming a curved line, of which the northern extremity, the Butt of Lewis, is about forty-six miles west of Cape Wrath, the most north-western point of Scotland; the southern extremity, Bernera island, is about forty-four miles west of Airdnamurchan Point. This archipelago consists of the large islands of the Lewis, North Uist, and South Uist, with numerous smaller islands. The three groups of the Orkneys, Shetlands, and Hebrides, lie between the meridian of London and 8° 18′ W.

The Isle of Man, which lies in the Irish Sea, indicates by its position, and the direction of its high lands that it is a prolongation of the opposite coast of Scotland. Its northern extremity is right opposite to Burrow Head in Wigtonshire, the nearest point of the main land, from which it is about fifteen miles distant.

The Scilly or Sorling Islands, a group of small islands, lie off the Land's End. The south point of St. Agnes, the most southern that is inhabited, is in 49° 52′ 30″ N. lat., 6° 19′ W. long.

We have already given a general notion of the form of this island, by comparing it to a triangle; but this, though a very old comparison (Cæsar, De Bell. Gall. v. 13) and the ordinary comparison, is not an exact one. If we join all the great salient points of the island, and connect them by straight lines, we shall form a more exact notion of its polygonal figure. It must be premised that, in the following tabular view, we have only selected those points that are essential for determining the *general* figure of the island; that our straight lines occasionally cut through a small portion of the land; and that the student must complete his conception of the outline of the island by inserting numerous points between ours*: he will thus approximate still nearer to a knowledge of all the irregularities of the coast. It must also be remembered that, though the measurements have been made with care, they may in some cases be inexact, owing to the want of good maps of some parts of our coast, or to other causes. Each student must measure for himself.

The north coast of Scotland does not terminate in a promontory, but presents to the ocean a bold and broad indented front of about seventy-two miles direct

* Z, in Scotch, was a miswriting for *y*: thus, Mackenzie, Dalzell, &c. were pronounced as if the *z* were *y*.

* See Journal of Education, No. XI, on Professor Agren's constructive method of teaching geography.

listance, between Cape Wrath and Duncansby Head, which lie very nearly in the same latitude. This coast has numerous inlets, and streams, flowing into the sea from south to north, but no large rivers: the largest, the Naver, has a course of thirty or thirty-two miles. Our measurements commence at Cape Wrath, and proceed from west to east, and then from north to south. The column headed "Distances" marks the distance between the cape or head-land opposite to which any number is placed, and the cape which precedes it in the numerical series. The division headed "Remarks" enumerates other points of land, and the chief indentations of the coast, with the chief rivers between the several points of the numerical series.

Nos.	Names.	Latitude.	Longitude.	Distances, Miles.	REMARKS.
1.	Cape Wrath	58° 37′	5° 1′ w.		1 and 2. Kyle of Durness, Farout Head, Loch Eribol, Kyle of Tongue, Naver R., Strathy Point, Dunnet Bay, Dunnet Head. Cape Wrath is a bold promontory of gneiss: the coast immediately east of it is bolder, and consists of old red sandstone.
2.	Duncansby Head	58° 33′	3° 2′ w.	72	
3.	Tarbet Ness*	57° 53′	3° 43′ w.	57	2 and 3. Sinclair's Bay and Noss Head; Helmsdale R., Brora R., Firth of Dornoch.
4.	Kinnaird's Head	57° 43′	2° 1′ w.	64	3 and 4. Firth of Cromarty, Murray and Beauly Firths, Findhorn R., Burg Head, Spey R., Deveron R.
5.	Fife Ness	56° 16′	2° 34′ w.	100	4 and 5. Ugie R., Peterhead, Ythan R., Don R., Dee R., North Esk R., South Esk R., Firth of Tay and R. Tay.
6.	North Sunderland Point.	55° 34′	1° 37′ w.	62 or 63	5 and 6. Firth of Forth and R. Forth, Tyne R., St. Abb's Head, Eye R., Tweed R., Holy Island, Farn Islands.
7.	Flamborough Head*	54° 7′	4′ 45″ w.	115	6 and 7. Aln R., Coquet R., Wansbeck R., Blyth R., Tyne R., Wear R., Tees R., Esk R.
8.	Winterton Ness, Norfolk†	52° 41′	1° 39′ E.	122 or 123	7 and 8. Bridlington Bay, Spurn Head at the north outlet of the Humber; Wash, the receptacle of an extensive drainage, containing the Witham, Welland, Nen, and Ouse.
9.	South Foreland, Kent	51° 9′	1° 23′ E.	107	8 and 9. Yare and Waveny Rs., Deben R., Orwell and Stour Rs., the Naze, Blackwater R., Thames and Medway Rs., North Foreland, Pegwell Bay and Stour R.
10.	Beachy Head, Sussex	50° 44′	15′ E.	55 or 57	9 and 10. Dover, on the Straits of Dover, the nearest point to the French coast, distant about 21 miles; Dunge Ness, Rother R.; Beachy Head is 564 feet high; high chalk cliffs from Beachy Head to Brighton.
11.	Lizard Point, Cornwall	49° 57′	5° 12′ w.	245	10 and 11. Cuckmare, Ouse, Adur, Arun Rs.; Selsea Bill and Hurst Point, between which lie Portsmouth Harbour, Southampton Water, and the Isle of Wight; Avon and Stour Rs., Studland Bay, St. Alban's Head; Bill of Portland and Bolt Head (Bolt Head is 430 feet high), between which lie Ax, Otter and Ex, and Teign Rs., Tor Bay, Dart R., Start Point; between Bolt Head and the Lizard, Plymouth Sound, Polkerris Bay, Falmouth Harbour. The Lizard Point is distant from the nearest part of France about 95 miles

* Captain Hewett's Survey † Ibid.

Nos.	Names.	Latitude.	Longitude.	Distances, Miles.	REMARKS.
12.	Land's End	50° 4′ 20″	5° 41′ w.	23 or 24	11 and 12. Mount's Bay.
13.	Bull Point, Devonshire	51° 12′	4° 11′ w.	102 or 103	12 and 13. Cape Cornwall, St. Ive's Bay, Trevose Head, Hartland Point; Bideford or Barnstaple Bay, containing the æstuary of the Taw and Torridge, which come from Dartmoor.
14.	Worm's Head	51° 33′	4° 17′ w.	23	13 and 14. This line, of about 23 miles, stretches nearly due north, across the great æstuary of the Severn, otherwise called the Bristol Channel. The æstuary of the Severn receives the Avon of Bristol, the Severn, Wye, Usk, Taff, and the Neath and Tawe, which flow into Swansea Bay.
15.	St. David's Head	51°54′25″	5° 17′	52	14 and 15. Between Worm's Head and St. Goven's Head (166 feet high) is Carmarthen Bay, containing Burry R. and the æstuary of the Towey: spring tides at St. Goven's Head rise 24 feet. Milford Haven and St. Ann's Head (214 feet), St. Bride's Bay. The distance between St. David's Head and the Land's End, the two extreme western limits of the Bristol Channel, is about 121 miles.
16.	Carnel's Point, north-west extremity of Anglesea	53° 24′	4° 33′ w.	116 or 112	15 and 16. Strumble Head, Fishguard Bay; the great Bay of Cardigan lies between the Teify R. and Ynaliog Mountain, opposite Bardsey Sound, and receives the Ystwith, Dovey, Maw, Traeth Bach; Caernarvon Bay and southern entrance of the Menai Strait: Holyhead.
17.	Rock Perch at the south entrance of the Mersey	53° 26′	3° 3′ w.	65	16 and 17. Beaumaris Bay and northern entrance of Menai Strait; Conway R., Great Orme's Head; æstuary of the Dee.
18.	St. Bee's Head, Cumberland	54° 32′	3° 38′ w.	78	17 and 18. Æstuary of the Mersey, Formby Point, æstuary of the Ribble, Rossall Point, up to which the coast has a general north direction from Rock Perch. Between Rossall Point and the southern extremity of Walney Island is Lancaster Bay, containing the æstuaries of the Wyre and Lune; and the deep trending Bay of Morecambe, containing the æstuaries of the Kent and of the Crake. Dudden æstuary, Ravenglass Bay.
19.	Mull of Galloway	54° 38′	4° 52′	53	18 and 19. The great æstuary of Solway Firth, which receives the Eden, the Esk, the Annan, and the Nith; Dee R. and Kirkcudbright Bay; Wigton Bay, Burrow Head, Luce Bay.
20.	Mull of Cantire	55° 19	5° 48	61	19 and 20. Loch Ryan; Stinchar, Girvan, Doon, Ayr, and Irvine Rs.; the great Firth of Clyde and R. Clyde, Bute Island, Arran Island opposite Loch Fine.
21.	Point of Airdnamurchan	56° 45′	6° 8′ 30″ w	93	20 and 21. This line crosses the Islands of Jura and Mull, which, though separated from the mainland, physically belong to it; Jura Sound; Linnhe Loch, which communicates with Lochs Etive Leven, Eil; Mull Sound.

Nos.	Names.	Latitude.	Longitude.	Distances, Miles	REMARKS.
22.	Ru Rea	57° 51′	5° 32′	85	21 and 22. This line cuts the large Island of Skie, which is only separated from the mainland by a very narrow passage. All this part of the coast is indented by deep and generally narrow inlets, called Lochs.
23.	Cape Wrath			51	22 and 23. This line of coast is exceedingly irregular; it contains the deep inlet of Loch Ewe communicating with the Loch More; Little and Great Loch Broom; Ru More or Coygach Point; Asynt Point or Ru Stoir. Between Ru Stoir and Cape Wrath, Kyle Scowie, and Lochs Laxford and Inchard.

We refer to the description of the several maritime counties for the particular description of the coasts of the island.*

The whole circuit of the polygonal figure formed by these twenty-two points is about 1800 English miles. To determine the real circuit of the island, measuring along all the deep inlets and river æstuaries, as far as the salt water penetrates, is, at present, we believe, hardly possible. The following measurements, however, will give some more exact notion of the circuit, though one which falls short of the real salt water coast-line. It is an approximation, but it is better than nothing. To give some idea of the mode of measurement employed as to the great æstuaries, it may be stated that the æstuary of the Thames is crossed by the line of measurement at the Nore; and in the Bristol Channel the line of measurement from Bull Point runs up to the mouth of the Avon of Bristol, and crosses to the mouth of the Usk. The large islands of Mull and Skie are not included in the coast-line of Scotland; and the numerous lochs and bays that run deep into the land are only included between the salient points of their openings. Any measurement of the west coast of Scotland must be very indefinite till we ascertain the limit of tidal water, or some such tolerably fixed point, and reckon accordingly.

Cape Wrath to—	Direct.	Coast.
Duncansby Head	72	108
Tarbet Ness	57	90
Kinnaird's Head	64	117
Fife Ness	100	123
N. Sunderland Point	63	137
Carried forward	356	580

	Direct.	Coast.
Brought forward	356	580
Flamborough Head	115	138
Winterton Ness, Norfolk	122	216
South Foreland, Kent	107	184
Beachy Head, Sussex	56	68
Lizard Point, Cornwall	215	344
Land's End	23	36
Bull Point	103	132
Worm's Head	23	178
St. David's Head	51	104
Carmel's Point	114	214
Rock Perch, mouth of the Mersey	65	82
St. Bee's Head	78	122
Mull of Galloway	53	147
Mull of Cantire	61	170
Point of Airdnamurchan	93	122
Ru Rea	85	125
Cape Wrath	51	150
	1801	3112

The Atlantic sea-coast of the United States of North America, according to Darby, is—

	Miles.
Along the Gulf of Mexico, from the mouth of the Sabine to Florida Point	1100
Along the Atlantic Ocean	1800
	2900

Thus it appears that Great Britain has more sea-coast than the United States of North America. Though the circuit that we have given is far below the truth, there is, perhaps, some exaggeration in the statement in "Sinclair's Statistical View of Scotland," where it is said that the sea-coast of that part of the island, reckoning * the main land

* The sea-coast of the county of Argyle alone is above 600 miles.

only, is nearly 2500 miles, though the boundaries taken by straight lines would not exceed 620.

The following dimensions of the island of Great Britain, taken between nearly opposite points on the west and east coasts, will show the proximity of the sea at the opposite and nearest points of the island.

	Miles.
Between the outlet of the Bristol Avon in the Bristol Channel and London, near the head of the æstuary of the Thames . . .	112 or 116
Between the N.E. extremity of Cardigan Bay near Harlech, and Fosdyke Wash, in the Wash	170
Between Liverpool, on the æstuary of the Mersey, and Hull, on the æstuary of the Humber*	113
Between the æstuary of the Kent, at the head of Morecambe Bay, and Saltholme, on the æstuary of the Tees	70
Between the outlets of the Esk and Eden in Solway Firth, and the outlets of the Blyth and Wansbeck, in Northumberland . . .	62
Between the Clyde at Dumbarton and Alloa on the Forth	33
From Renfrew to Alloa is somewhat less.	
Between Fort William, at the head of Linnhe Loch and Inverness, near the outlet of Loch Ness into Murray Forth	55

The chain of sea and fresh water lochs, consisting of Loch Linnhe, Loch Lochy, Loch Oich, and Loch Ness, lying from S.W. to N.E., almost cuts off the northern portion of the island, and forms altogether one of the most singular lake phenomena in Great Britain. This natural water-communication is now completed by the Caledonian Canal.

Between the head of Loch Broom and Kincardine, on the Firth of Dornoch . .	24

The tide ascends so high in the Oikel which flows into the Dornoch Firth as to approach within 18 miles of the west coast.

The longest line in the island, from the west to the east coast, measured along a parallel of latitude without cutting the sea, lies pretty nearly between St. David's Head, in Pembrokeshire, South Wales, and the Naze, in Essex: this line is about 280 miles long.

The longest line, from east to west, across the northern portion of the island called Scotland is, from Buchan Ness, in Aberdeenshire, to Point Rownamoan, in Ross-shire, which is somewhat above 150 miles.

The whole surface of that part of the island called England is estimated at 50,287 square miles*, and that of Wales at 7426 nearly†. The surface of the main land of Scotland is estimated at about 25,520 square miles of land, and 494 square miles of fresh water lakes‡. The whole surface of the island will therefore be about 83,827 square miles. The area of Ireland, which is not known even so nearly as that of England, is given at 26,848 square miles. The area of the Orkneys, Shetlands, and Hebrides, is stated at about 4224 square miles‡.

In examining the surface of this island for the purpose of a general geographical description, it will be found convenient to follow certain great natural divisions or separations between the high and the low lands. The most striking natural division of the whole island is into two parts: it is formed by a plain which stretches from the Firth of the Clyde to that of the Forth. On the Clyde it extends from Glasgow to Kilpatrick; and on the Forth, from Linlithgow to the mouth of the Carron. The land between these two level shores may be considered as a plain, though it is diversified by several round-backed eminences. Its general level character and direction are indicated by the line of the Roman rampart called the Wall of Antoninus, and by that of the Forth and Clyde Canal: the greatest elevation of this canal is not above 160 feet. Loch Fannyside, which may be considered the centre of this isthmus, is about 150

* The salt water of the two æstuaries approaches probably within 85 or 90 miles.

* The total area of England, as deduced from the respective areas of the counties, given in Rickman's volumes on the population of Great Britain, is 49,641 square miles. The difference between the two estimates is about 746 square miles, or more than the area of Westmoreland, and nearly as much as the area of Leicestershire.

† Marshall's Tables.

‡ Mr. Robertson, in Sinclair's General Report of Scotland.

feet above the sea level. The northern boundary of this plain is distinctly marked by the Campsie Hills: on the south there is no definite boundary, the plain gradually rising as we ascend the valley of the Clyde, and also as we advance to the foot of the hills of Linlithgow and the Leven Seat, which is a considerable elevation situated near the S.W. angle of Mid Lothian. The part to the north of this plain between the Firths of Clyde and Forth is the most mountainous region of the island, and will be described separately; that to the south of this plain, consisting of South Scotland, England and Wales, forms the subject of the first part of the general physical description of Great Britain

Physical Description of Great Britain, South of the Clyde and Forth.

This part of the island cannot be described without a reference to several subdivisions. Perhaps none can be formed that are entirely free from objection, but we shall adopt those which seem most natural and most convenient.

I. The region included between the Isthmus of the Clyde and Forth, and the depression in the central high lands indicated by the line of the Roman Wall from Bowness on the Solway Firth to Newcastle on the Tyne.

II. The central high-lands, with their ramifications, extending from the line of the Roman Wall to the southern extremity of the Derbyshire hills and the Staffordshire moorlands. This may be called the *Penine Chain**.

III. The high lands of Central and Southern England, not belonging to the Penine Chain, and not including those west of the valley of the Exe river.

IV. The high lands of Dartmoor and Cornwall, including Exmoor, which contains the sources of the Exe.

V. The mountains of Wales, under which term is comprehended the whole region to the west of a line joining Chester on the Dee and Shrewsbury on the Severn, and thence continued down the valley of the Severn into the æstuary of that river. The highest level of the Ellesmere Canal, between Ellesmere and Whitchurch, is 309 ft. 9 in.† This canal runs in the small elevation which here separates the valley of the Dee from that of the Severn, and indicates very nearly the line of the water-shed between the two towns just mentioned‡.

In describing the mountainous region of each of these divisions, we shall first briefly indicate the general direction of the high lands in each division, and the position of those tracts which may be called low lands; and we shall also endeavour to indicate the general boundaries between the streams which flow into different parts of the sea. We shall often connect the more particular description of the mountains with the rivers; for the higher courses of all the streams (except those which belong to No. III.) are within the mountainous tracts of the island, and the rivers of a country, when their sources and direction are known with tolerable accuracy, are the *index* to the mountains; they show the general boundary line between a number of streams which discharge themselves into one part of the ocean, and those which discharge themselves into another part. They also show the direction of the upper valleys, which, being dependent on the hills, indicate the general bearing of the great and continuous masses of the high-land. We have already remarked that nearly all the large streams of the island enter the sea on the east or west side: it may further be remarked, that all the large rivers, within the limits above named, with the exception of the Thames, have a very large part of their courses in a general direction from north to south, or the reverse. On considering the courses of the greatest rivers in the north of England, it will appear that a direct course from their source to the sea would reduce them to insignificant streams. As a general rule, then, their northern and southern courses lie in longitudinal valleys, having a direction corresponding to that of the mass of the high lands; the longer part of their courses is in these directions; and the eastern and western parts of their courses, which are shorter, mark as a general rule their passage through the lower lands to their embouchures in the sea. These notions require a particular developement.

* See Conybeare and Phillips, Geology of England and Wales, p 365.

† Bradshaw's Map of Canals. The level from which he reckons all his heights is six feet below the sill of the Old Dock gates at Liverpool. We do not know why this level was chosen.

‡ Ordnance Map, No. 73.

I. *The Region between the Isthmus of the Clyde and Forth, and the Line between Bowness and Newcastle.*

The chief part of the mountain mass of this region lies nearly in the direction of the greatest width of this part of the island, from S.W. to N.E. It runs from the high coast on Wigton Bay, and also from that opposite to Ailsa Rock in a N.E. and sometimes N.N.E. direction towards the great bend in the Clyde at Liberton. Here one mass takes a more northern direction, and joins the S.W. extremity of the Pentland Hills, which run northward towards the Firth of Forth. The other mass has first a more easterly and then a northerly direction, terminating in the Cheviot Hills. From about Carter Fell (about 55° 22′ N. lat.) the mass has a southern course towards the depression indicated by the line of the Roman Wall; and in this part of its course we see the commencement of the great Penine chain which corresponds in direction to the length of the island. The chief systems of low lands or valleys formed by the high lands within the limits of the region as above defined, are—the valley of the Clyde, the basin of Ayrshire, the low country on the north side of the Solway Firth, the valley of the Tyne, and the valleys of the Tweed and its affluents.

The main sources of the Clyde, which flows into the Firth of Clyde, of the Annan, which flows into the Solway Firth, and of the Tweed, which enters the North Sea, are all near one another in the same high land, which may be considered as the centre of that elevated wide-spread mass in South Scotland, whose ramifications we shall attempt to trace.

In the neighbourhood of Greenock, on the south side of the Firth of Clyde, the high lands commence, which, running in a general S.E. direction for about seventy miles, as far as Queensberry Hill, in Dumfriesshire, form the western boundary of the Clyde valley. From this point, which is near the sources of the Clyde, and not more than twenty miles from the waters of the Solway Firth, a line of about eighteen miles drawn N.N.E. to Loch Skene (the source of the Moffat Water, the main branch of the Annan), passes a few miles to the south of the head waters of the main branch of the Tweed. Loch Skene is at an elevation of 1300 feet, or probably less, and abounds in fine trout.

A range of high land extends from near Edinburgh, commencing about six miles from the Firth of Forth, under the name of the Pentland Hills: it runs first in a S.W. and then in a general S. direction. towards Queensberry Hill, a distance of about 55 miles. This high land forms in its southern course the eastern boundary of Upper Clydesdale. In the northern part of its course, where it is called the Pentland Hills, it forms the boundary between Leith Water on the west, and the united North and South Esk on the east, both which streams, running in a general direction corresponding to that of the hills, empty themselves into the Firth of Forth. The highest point of the Pentland Hills (1860 feet), is five miles S.W. of Arthur's Seat, an eminence close to Edinburgh, on the S.E. side of the city.

From Loch Skene (about 55° 25′ N. lat., 3° 17′ W. long.), or rather, from the hill called Ettrick Pen, a few miles south of the Loch, the water-shed, or boundary line of the river basins, takes a general eastern direction, with a small bend to the south, past Wisp Hill, for about 35 miles, to Carter Fell, near the sources of the Reed, a branch of the North Tyne. Between these two points we find, on the north, the sources of the Ettrick (near Ettrick Pen) and the Teviot, two large affluents of the Tweed; and on the south, the sources of the Esk of Solway Firth (in Ettrick Pen), and its affluent the Liddel. From Carter Fell, the Cheviot Hills, as they are here called, take a turn to the N.E., and then to the north, towards Coldstream on the Tweed. It thus appears that the high lands which commence near Greenock make an irregular sweep, changing in their course from S.E. to N.E., then E., and lastly N. The continuation of the Pentland Hills, forming the eastern side of the Upper Clydesdale, has a general southern direction, and forms a knot or junction with the main mass about Queensberry Hill, where also one of the highest summits is found.

The line which we have just described from Port Greenock, past Loch Skene and Carter Fell, to Coldstream on the Tweed, separates the Clyde and Tweed basins from all the rivers south of them; but it will be necessary to de-

scribe it somewhat more in detail, in order to show its true character.

From Cloch Point (the N.W. part of Renfrewshire, which abuts on the Firth of Clyde) the high lands which rise behind Greenock run southwards near the west coast, and terminate in the hill of Knockgeorgan (700 feet high) about three miles north of Ardrossan Bay. The Mistie Law (1558 feet), the source of the Garnock, which enters the sea a little below Irvine, is one of the highest points in this insulated mountain range. Its separation from the higher mountain range in the S.E. part of Ayrshire is shown by the following fact: a line drawn from Ardrossan Bay to Johnstone, near Paisley, corresponds to a very considerable depression in the high lands. This depression, when traced from the east, follows the course of the Black Cart Water (an affluent of the Clyde), and the levels of Castle Semple Loch and Kilburnie Loch. A summit level, originally designed for the Ardrossan Canal, might commence a little to the west of Johnstone, at an elevation of only 102 feet above high water, and run for eighteen miles on the same level, through a country of coal, iron-stone, and lime-stone, to within less than two miles of Ardrossan, where a descent of 104 feet would bring it again to the level of the sea.

From the heights north of Ardrossan, the high land makes a circular sweep to the south with the concave side to the west, inclosing in a kind of amphitheatre on the E., S.E., and S. the best part of Ayrshire. The termination of this sweep is on the south side of the outlet of the Girvan, in the high land on the coast nearly opposite to Ailsa rock. This part of Ayrshire, included between the sea and the lands that separate it from the Clyde basin, is a gently undulating country, rising into mountains on the S.E., where it borders on Dumfriesshire, and into hills on the east of inconsiderable elevation. The direct distance from Ardrossan Point to the outlet of the Girvan is about twenty-seven miles.

From the summit level already described, to the sources of the Avon (an affluent of the Clyde) and to those of the Ayr, the common boundary of the Clyde basin and the plain of Ayrshire, is in general of small elevation. From some points on the *east* bank of the Clyde in the central ward of Clydesdale, not more than 100 or 150 feet above the sea, the hills of the isle of Arran, though fifty miles distant, may be seen over the intervening heights which form the west side of the Clyde valley. This district chiefly consists either of a barren heathy pasture, which is often very wet, or of what is called bent moss; the latter makes good fuel, and affords tolerable pasture for sheep and Galloway cows. In the parishes of Muirkirk and New Cumnock, which are situated respectively high up the Ayr, and its tributary the Lugar, more than half the land consists of bent moss *. The hills between the sources of the Avon, the Ayr, and the Douglas (a branch of the Clyde), are sometimes called the Haugshaw Hills: abundance of coal exists here, and indeed in almost every part of Ayrshire.

The Doon, which belongs to the south part of the Ayrshire amphitheatre, has a general course to the N.W.: the Girvan, the next river in order as we advance south along the west coast, has the upper part of its course in the same direction as that of the Doon; but the lower part is deflected to the S.W. by some high lands which stretch south along the coast from the mouth of the Doon. Brown Carrick Hill, on the coast bordering on the Doon, is 924 feet high. The high lands which form the bold coast between the Girvan and the Stinchar, which is south of the Girvan, mark the boundary between the chief streams of Ayrshire and those of Kirkcudbright and Dumfries: but no regular ridge can be traced from the sea coast opposite to the high rock of Ailsa †, up into the central masses near the head waters of the Clyde and Tweed. The mountains in the interior seem thrown together without any order, forming one irregular elevated region, penetrated both from the north and south by long deep valleys, and sending out their offsets to the very edge of the Solway Firth. Thus from the Tintoe Hills (2310 feet), a few miles south of Lanark, in the angle formed by the junction of the Douglas and the Clyde, to Queensberry Hill, near the source of the Clyde, is a direct distance of near twenty-five miles; and the Clyde, which at first flows north, is flanked on each side, for at least ten miles from its source, by the nearly parallel valleys of the Annan and Nith, which have a general southern course. The mountains which rise on the west shore opposite Ailsa,

* Ayrshire Rep., by Aiton, p. 36.

† See description of Ailsa, by Dr. Macculloch, Highlands and Western Isles, &c.; and Trans. of Lond. Geol. Soc. vol. i.

and continue past the head waters of the Clyde and Tweed, constitute, as we have already remarked, one mass with the Cheviots, and in fact run nearly from sea to sea, forming the longest and most continuous mass of high land that stretches across this island, except the Grampians. The depression which we shall presently notice more particularly as occurring in the Northumbrian mountains, contributes to give to this northern mass more of a distinct and separate character.

At the head of the Clyde valley, and along the northern boundary of Dumfries, the highest mountains, when seen from some elevated summit, present only a confused mass of rugged tops. The high lands, as we have remarked, spread out for many miles north and south, and consist of barren, bleak, and round-formed masses, such as we find about the lead-mines at Lead-Hills; a village said to be more than 2000 feet above the level of the sea, and lying in the angle between the upper waters of the Daer (Clyde), and the Nith. The top of the hills called the Lowthers, near Lead-hills, is 3150 feet. The summit of Hart Fell, a high hill near the source of the Tweed, is green and flat: from this elevated point the spectator may see, in fine weather, the Cheviots, Skiddaw in Cumberland, Crif-fell, Black Larg in Ayrshire, and at sunset Ben Lomond, which is above 70 miles direct distance from Hart Fell*. The position of these mountains, on the borders of Dumfriesshire and Clydesdale, has a great effect on the climate. The sheep farmers on the *north* face of the mountains of Lanarkshire, Selkirk, and Peebles, are sometimes obliged to remove their stocks of sheep, and to support them on hay given to them on the snow; but in Annandale and Nithisdale, on the *south* face of the mountains, the sheep can find grass on the hills †.

The highest points ascertained along the watershed which separates the Clyde and Tweed from the rivers south of them are—

	Feet.
Cairntable, in Ayrshire, near the source of the Ayr	1650
The Lowthers	3150
Queensberry, 55° 17′ N. lat., 3° 37′ W. long.	2259
Hart Fell, near Tweed source	2790
White Comb looking on the basin of Loch Skene	2685
Ettrick Pen	2220
Wisp-hill, 55° 17′ N. lat., 2° 57′ W. long., near the source of the Teviot	1940
Cheviot Hill	2670

From the southern part of the Pentland Hills, a range of high land runs eastward, from near Linton on the Lyne (a branch of the Tweed) and past the sources of the North and South Esk, separating, on the north, the basin of the Tweed from the beautiful and fertile valley of the Tyne of Haddingtonshire. The western part of this range is known by the name of the Muirfoot and Sutrie Hills; the eastern, which also spreads out to a great width north and south, is called the Lammermuir. It terminates on the coast at Lumsden Hill (730 feet), and in the bold rocky promontory of St. Abb's Head (55° 56′ N. lat.), where the station of the Preventive mast is 286 feet high. This bold coast extends some miles to the north of St. Abb's Head, and also to the south, indicating, to a certain extent, the breadth of the high lands westward in the interior. The Lammermuir is chiefly moor or moss, though even some of the highest parts are capable of improvement; in the glens and low tracts between the hills there is much valuable land, which is under regular cultivation. This elevated district is sometimes covered with snow for three months.

In the Lammermuir, Sayers Law is 1739, Spartleton 1620, and Cockburn Law 1062 feet; the highest point of the Muirfoot is 1860 feet. The high land of the Muirfoot closes in the western extremity of the Tyne valley, and the hills, with some interruptions, are continued eastward along the N. side of the Tyne basin. These hills consist of various ridges, running generally from west to east: between Aberlady Bay and North Berwick they form some moderate elevations near this part of the Firth; and a little farther in the interior is the range of the Garleton Hills, 2½ miles north of Haddington, from which there is an extensive prospect of the whole of this well-cultivated district, bounded on the south by the bare Lammermuir, which seems to rise abruptly and forms a natural amphitheatre. The North Berwick Law, an insulated conical hill, which is close to the coast, between Aberlady Bay and Tantallon Castle,

* Dr. Singer, Dumfriesshire New Statistical Account.
† Old Survey of Dumfries, by Dr. Singer.

may be considered as the north-eastern limit of this fertile valley of Haddingtonshire. The western part of the county abounds in coal.

The Tyne rises in Edinburghshire, in the Muirfoot Hills, and has a general N.E. and E.N.E. course past Haddington to the sea. Though its course is short, its volume of water is much augmented by the lateral streams from the high lands on the north and south sides of the valley. It enters the sea below Tyningham.

Valley of the Clyde.

The Clyde rises near Queensberry Hill; it is there called the Daer, and when joined by a small brook on the east, named the Clyde, it takes and retains this name. It runs first in a general N. and then a N.E. direction to near Biggar. From Biggar it makes a great bend past Liberton. Beginning a little above Lanark, it has a general W.N.W. course, past the towns of Lanark, Glasgow, and near Renfrew to Dumbarton; its course may be about ninety miles. It is only navigable up to Glasgow, which is also the limit of tide water. The valley of the Clyde is very narrow in its upper part. At the heads of Elvan and Daer, which two streams cut deeply into the county of Dumfries, there are water-falls. As we follow the course of the river, the country opens; from the Tintoc Hills it assumes a gently undulating character, and the Clyde flows slowly, with many windings, till it comes to the falls at Bonnington. From this point it runs for about six miles through a rocky bed, forming other falls at Corhouse, Dundaff, and Stonebyres, which last is below Lanark. Down to the commencement of the first falls, vertical basaltic columns show themselves; but with the falls the sandstone, in horizontal strata, appears. The middle part of the Clyde valley, though at a distance it has the appearance of a plain, is an undulating country, with no extensive flat, rising irregularly to the highest ridges on each side of the valley; but these ridges, with the exception of some insulated points, are not more than 700 feet high.

The Clyde has no very considerable affluent; but it is increased by numerous small streams, which join it in the middle and lower part of its course. These streams, which are more numerous and larger on the left bank, descend along the lateral valleys formed by the spurs of the high lands on the western boundary of the river basin; several of them, such as the Avon, have their origin in small lakes.

The Clyde is subject to considerable rises, especially when heavy rains come from the S.E. It contains most kinds of fish found in other Scotch rivers, and especially salmon, which, if better protected, would, it is supposed, rapidly increase in quantity.

Rivers of Ayrshire.

The rivers that flow into the ocean along the western slope of the high lands bounding the Clyde valley, run in lateral valleys, like the affluents of the Clyde, but exactly in the opposite direction, and with a somewhat longer course. Many of these streams also rise in small mountain-lakes. The chief, as we go from north to south, are the Garnock and Irvine, which flow into the same small æstuary; and the Ayr, with its affluent the Lugar, which comes from the high land about Cairntable, and enters the sea at Ayr.

The river Doon, which enters the sea near the mouth of the Ayr, has its origin in the high lands in the S.E. part of Ayrshire. Its sources are in a number of elevated lakes, the waters of which, after flowing through Loch Doon, have a general north-west course to the sea. Loch Doon is about five miles long, contains about four square miles, is encircled with a rocky margin, and abounds in trout. The Girvan and the Stinchar, both of which have their origin in lakes near the sources of the Doon, enter the western ocean; the Girvan opposite the high rock of Ailsa, and the Stinchar thirteen miles south of it.

From near the sources of the Lugar and Ayr, we find the watershed, as already described, taking a general eastern course to the source of the Reed (the main branch of the North Tyne); but at the same time the main mass of the high lands sends out a number of lateral branches, which running in a general southern direction, form long valleys, traversed by rivers, which enter the sea between the Mull of Galloway and the head of the Solway Firth.

The mountains that press close on the west coast of Wigton continue to the low isthmus of Stranraer, which joins to the mainland the long narrow peninsula called the Rhynds of Galloway, forming on the north side Loch Ryan, and on the

south Luce Bay. From the coast at Corsill Point, the northern extremity, to the high Mull of Galloway, the southern extremity of this peninsula, is about thirty miles. The peninsula between Luce Bay and Wigton Bay retains the high land along its western margin, and terminates in the bold promontory of Burrow Head: Mochrum Fell, 14 miles N.W. of Burrow Head, is 1020 feet high*.

From a point between the sources of the Doon, the Dee, and the Nith, following a general southern direction, we trace an elevated mass † continued in the mountains of Larg Fell and Cairn's Muir along the eastern side of Wigton Bay. In this, as well as in other offsets, we find elevations equal to many of the highest in the central mass. Larg Fell, in Kirkcudbright, is stated to be about 1758 feet high; Cairn's Muir 2598; Black Larg, near one of the sources of the Dee, 1950; and Crif-fell, near the outlet of the Nith, on the Solway Firth, is 1830 feet high. Crif-fell is a mountain of a rounded form and easy ascent: it may, perhaps, be considered as forming, with the high lands connected with it, a detached mountain mass.

Valleys of the Dee, Nith, Annan, &c.

Between the Mull of Galloway and the head of the Solway Firth, we have a series of rivers, with a general course from north to south, running in narrow valleys, separated from one another in their upper parts by land of considerable elevation. The chief of these rivers, taken in order from west to east, are, the Cree, which flows into Wigton Bay, the Dee, Nith, Annan, and Esk. We have considered the valleys in which these rivers flow as lateral valleys, formed by parallel offsets from the main chain. The long narrow lake called Loch Kenmoor, formed by the Dee below New Galloway, shows clearly the nature of these valleys. This loch is about ten miles long; it contains about six square miles, and abounds in fish. The valley of Sanquhar and Kirkonnel in the upper part of the Nith appears also to have been once a lake: it is surrounded by mountains except at its southern extremity, where a narrow pass connects it with the lower valley of Closeburn, which is of a similar character ‡. Narrow lateral dales open also into these larger valleys, on their east and west sides, supplying them with the water collected from the high ground on each side. Thus the heads of the long parallel valleys of the Nith, Annan, &c., are connected by high ground, forming the mountain back-bone, and often used either as sheep-walks or for rearing cattle; and the small lateral valleys, opening into each long valley, also unite at their heads in the high lands which descend from the central mass towards the Solway Firth. Loose blocks of sienite are found scattered over the lower parts of Annandale and Nithisdale, though there is no granite *in situ* nearer than Crif-fell, on the S.W. side of the æstuary of the Nith.

The nature of this mountain country does not admit of any extensive plains except one, which is a part of the great Cumbrian plain. On the north and west side of Wigton Bay between the Cree and the Bladenoch (both of which fall into the same bay), extends the plain of Wigton, in the lower parts of which, near Wigton Bay, some peat mosses occur. The country between Wigton Bay and the æstuary of the Nith is of a hilly character, and the high land coming down to the sea forms, in general, a bold coast between the two limits just mentioned*.

The Dee, which opens into a considerable æstuary just below Kirkcudbright, runs generally in a narrow valley, and cannot be said to have any extensive plain. The plain of Dumfries is more important. The valley of the Nith, on which river Dumfries stands, is separated from that of the Annan † by a range of hills which runs down to Longrobie, within a few miles of the coast, but nearer to the channel of the Annan than the Nith. This range forms the eastern boundary of the plain of Dumfries; a small ridge also runs along the east side of the æstuary of the Nith, and terminates at Carlaverock Castle. A considerable part of the lower valley of Dumfries is underlaid by a reddish brown-coloured sandstone: but limestone appears also, as, for instance, in the parish of Cummertrees. This valley contains a considerable quantity of peat in the Lochar Moss, which extends from Tinwald to Cockpool, near the mouth of the Lochar: in the higher parts of this region peat occurs both in the hollows of the mountains and on their tops.

The Annan and Esk rivers belong to

* Dr. Barnes, Carlisle.
† See p. 9, col. 1, line 4.
‡ Jameson's Dumfries.

* Dr. Bushnan, Dumfries.
† The Nith rises in the parish of New Cumnock, Ayrshire.

the great plain which stretches round the head of Solway Bay into Cumberland. The upper part of the courses of these rivers is in the high lands, where the valleys, though narrow, are generally smooth and covered with grass: occasionally steep cliffs show themselves. A line drawn eastward from Whinnyrig near the Annan, through Ecclesfechan, Craigshaws, Solway Bank, Broomholme (about four miles below Langholm on the Esk), and Muirburnhead, marks the northern limit of the plain country, which has an average breadth of about eight miles*. This district is comparatively low, though diversified by some gentle round-backed hills. The coast between the Nith and the Esk is not level, yet it cannot be called hilly: the ground is gently undulating, never rising more than 100 feet above the sea level †. The course of the Esk from Broomholme is through a flat country, and along the east side of the great Solway Moss. It has two considerable affluents, the Liddel and Line, which join it on the left bank.

This region, between the Mull of Galloway and the head of Solway Bay, contains numerous small lakes, which are most abundant in that part which lies to the west of the Nith. They occur frequently in the deep irregular depressions which characterize the river-valleys of Kirkcudbrightshire, and resemble in character the now drained lake-valley of Sanquhar. There are five small lakes near Lochmaben, bordering on the valley of the Annan. The coal of this district, so far as it is worked in any quantity, is at Sanquhar on the Nith, and at Cannobie on the Esk.

	Miles.
The length of the Dee ‡ to Kirkcudbright, is about	45
The Nith	58
The Annan, to Annan	45
The Esk, to its outlet near the Eden	42

The tide ascends the Nith as far as Dumfries §.

The Solway Firth is forded at low water between Dornock parish in Dumfriesshire and the opposite coast of Cumberland; but the tide comes in with great rapidity, "with a rise of four or five feet water abreast ||:" it is, in fact, a bore. At ebb-tide the Solway presents a wide expanse of sand, in which the Eden and Esk rivers are observed to unite: after the junction of the Annan with them, they all run in one deep navigable channel for more than a mile, the stream then separates into two branches, one running along the Scotch, the other along the English coast*.

Valley of the Tweed.

The basin of the Tweed is of much greater extent and of a more diversified character than that of the Clyde. Its outer margin is determined on the north by the high lands which run in an eastern direction from the Pentland Hills, and are known as the Muirfoot Hills and the Lammermuir Hills. The southern boundary of the Tweed valley is partly formed by the Cheviot Hills; that on the west has been already described. In examining the Tweed valley, we find one among many other proofs of the inaccuracy of supposing continuous mountain-ridges to exist. The mountains of this part of the island are an elevated region, of which the chief nucleus is indicated by the divergence of the Clyde, the Tweed, and the rivers of the Solway Firth, as from a common centre. Instead of considering the Tweed basin as a valley or as a plain country, diversified with hills penetrating it in every direction, we ought to view it as a mass of elevated land intersected by depressions which bear a very small proportion to the high land. The mountains are really elevated, undulating plains, which spread out, irregularly in different directions, and to various distances, forming in the lowest parts, between the offsets from the central mass, a drain for their waters, or, in other words, the bed of a river. It is thus that the Tweed is formed of the drainage of a number of deep narrow valleys, which may be considered as sunk in the central mountain plains †.

The Tweed, like the Tyne of England, is formed by two branches, which run exactly in opposite directions: the Lyne, rising in the Pentland Hills, runs south; the Tweed, rising in Hart Fell (2790 feet high), in the angle included between the east and west branch of the Annan, runs north in a narrow valley, formed by green hills, with a course corresponding to that of the Upper Clyde. The two branches of the Tweed unite

* Jameson's Dumfries.

† Dr. Bushnan.

‡ In this, as in other instances, we call the river by the name which it bears at its outlet, and we measure its length from its remotest source, whatever name it may have.

§ Dr. Bushnan.

|| New Dumfriesshire Report, Rev. Nicholas Sloan.

* Rev. G. Gillespie, Dumfries Report.

† See the remarks of the Rev N. Paterson, of Galashiels, in the New Statistical Survey of Scotland, which are in accordance with the view here given.

about four miles above Peebles, from which point the river has a general eastern course, past Kelso to Coldstream, a direct distance of 37 miles. From Coldstream the river runs by a winding course through a more open country, in a general N.N.E. direction, to its outlet near Berwick. The whole course, measured from Hart Fell, is perhaps about 100 miles. The tide ascends this river eight or ten miles; near its mouth, the Tweed is noted for its salmon fisheries, which are now better protected under a recent Act. This river is liable to great floods.

The chief affluents of the Tweed, from the north, are the Gala, Lauder (Leader), and the Adder, which come from the Muirfoot and the Lammermuir. The high lands shooting out from the N. occupy the largest part of the angle between the Tweed and the Gala: Meigle Hill, just above the town of Galashiels, is 1480 feet high.

The two great affluents from the south, the Ettrick and the Teviot, run in valleys similar to that of the Upper Tweed; their general course making no very considerable angle with that of the main stream of the Tweed. The Yarrow, a branch of the Ettrick, rises near the head of Moffat Water, and forms a small lake called the Loch of the Lowes, which communicates with the lower and larger lake of St. Mary's, about 7½ miles in circumference. St Mary's is in some places 180 feet deep, and forms an immense reservoir the water of which, when a strong S.W. wind blows, often makes the Yarrow rise without any rain*. The mountains about St Mary's Lake and the Loch of the Lowes rise in steep dark masses, forming an exception to the general character of the Tweed hills. The length of the Yarrow to its junction with the Ettrick, a little above Selkirk, is about twenty-five miles. The Ettrick rises amidst some rushes between Loch Fell and Capel Fell, two miles above Potburn, which is said to be the highest farm-house in Scotland†: it joins the Tweed between Sunderland-hall and Abbotsford. The hills of Ettrick are beautifully rounded, and nearly all of them are covered with green grass to the summit. Ettrick parish contains a great quantity of peat full of decayed trees, a large part of which on the hills is birch, and on the low grounds oak. Between the bed of the Upper Tweed, and that of the Yarrow, we find the high central lands occupying nearly the whole region, leaving only comparatively narrow slips along the banks of the streams, and on the slopes of the hills: Dollarbon Hill is 2790, and the highest point of the Blackhouse Hills 2370 feet high. Three Brethren Cairn, a little west of the junction of the Tweed and Ettrick, is 1978 feet, and the Peat Law 1964.

The Teviot rises at Wisp Hill (1830 feet high), thirteen miles E.S.E. of Ettrick Pen, and running through the rich valley of Teviotdale unites with the Tweed, near Roxburgh Castle, a little above Kelso; it is joined by numerous minor streams, of which the Ale, on the left bank, is the chief. The high lands between the Ettrick and the Teviot extend to the very banks of the Tweed! Eildon Hill, near Melrose, is 1364 feet high. Between Borthwick Water, an affluent of the Upper Teviot on the W. bank, and the Ettrick, there is a cold elevated flat heath, with numerous small lakes upon it.

The Till, which joins the Tweed three miles below Coldstream, rises on the east side of Cheviot Hill: it first runs east, under the name of Breamich, in a lateral valley, but instead of reaching the sea in this direction, it is turned northward by a ridge of no great elevation, and runs for about thirty miles parallel to the coast, at the average distance of about ten miles, till it joins the Tweed. This stream is joined, about twelve miles above the Tweed, by the Beaumont, which rises on the west side of the same mountain, and after a northern and then an eastern course, joins the Till: the two streams nearly encircle an elevated mountainous tract.

The mountainous tract between the Till and the Teviot comprehends the porphyry district of the Cheviot hills; the highest parts of these mountains are covered with peat, and the lower acclivities with alluvial earth. Carter Fell, where limestone is quarried, seems to be the S.W. limit of the porphyry district. Cheviot Hill, the highest in the group, is a large round-topped mountain, in 55° 29′ N. lat., and nineteen miles from the coast at Beadnell near Sunderland Point. To the east of Cheviot Hill, and separated from it by a valley, is Hedgehope, 2325 feet. The high land between the Till and the sea runs as far S. as Bamborough Castle, forming a bold rocky coast, and indeed it continues, with hardly any interruption, to the outlet of the Aln: in this range we find, going from north to south, Billy Law Station (344 feet); Sun-y-

* New Statistical Survey. † Idem.

side Hill (284 feet); Scremerston Hill (233 feet); Black Heddon, nearly west of Holy Island (617 feet); and Hebburn or Ros Castle Hill (1024 feet), nearly due west of North Sunderland Point. Basaltic eminences form a striking characteristic of the country near the coast between Berwick and Alnmouth. Bamborough Castle and Dunstanborough Castle stand on eminences of basalt rock.

II. *The central High Lands with their Ramifications, extending from the Line of the Roman Wall to the southern extremity of the Derbyshire Hills and the Staffordshire Moorlands.*

This division contains the most mountainous part of England. The chief characteristics are the following. The general direction of the high land is north and south in the direction of the island's length. The mountains form no continuous well-defined ridge, but a wide-spread mass, consisting of hills, high moorlands, and valleys: the valleys have for the most part a southern or northern direction. The Cumbrian mountains, though united to the Penine chain, form in all other respects a distinct mass. The offsets of the central or Penine chain run out towards the eastern shore between the valleys of the Wear and the Tyne; and farther south they run down into, and gradually subside in, the great Yorkshire plain: on the west they send out their offsets towards the Lancashire coast, and in some parts approach very near to it though at a small elevation. The high lands of Derbyshire and Staffordshire are the southern termination of the Penine chain.

The remarkable lowlands are:—the great Cumbrian plain between the Cumberland mountains and the Solway Firth: the lowlands which line the Lancashire coast, and lie in front of and round the outstretching masses of the Penine chain: the great Cheshire plain chiefly to the south of the Mersey, and bounded by the Derbyshire hills on the east: the great York plain between the detached masses of the eastern moorlands and the York Wolds on one side, and the Penine chain on the other.

In portions of the earth's surface which are on a large scale, it is generally not difficult to define the great boundaries of the different river-systems, and to describe the masses of high land. But the difficulty of this description in the portion of the island between the northern sources of the Tyne, and the north boundary of the Thames drainage, is well known to those who have attempted it. So numerous are the streams, and so complicated is the drainage of the northern part of England, that it is exceedingly difficult to make any satisfactory distribution of it. We generally consider the Cheviot hills as the termination of that elevated mass of land sometimes denoted the Penine chair which traverses North England from the borders of the Trent and the moorlands of Staffordshire. But it will appear from the description already given of South Scotland, that the northern extremities of this range must be traced to the shores of the Firths of Forth and Clyde, where the two branches that fork out from the central mountains of Dumfriesshire respectively terminate. The Penine chain, in its southern progress from Cheviot Hill and Carter Fell, sends out a number of lateral branches to the E. into the county of Northumberland. Between Carlisle and Newcastle it has a considerable depression, and though the continuity of the high land is not interrupted, it ceases here to have a mountain character. The highest station on a line drawn across the island from Carlisle to Newcastle is only 445 feet above the sea level. On this spot the village of Glenwhelt stands, near the Roman wall*.

On the banks of the South Tyne in Yearsdale, a few miles north of Alstone, the mountain character again commences, and Cross Fell, 2901 feet high (54° 42′ 05″ N. lat.), near the junction of the four northern counties, is the highest point in the whole Penine chain. The steep western escarpment which bounds the E. side of the upper Eden valley to its termination, forms a contrast with the gradual slopes and long arms which stretch out into the counties of Durham and Yorkshire. About the lat. of 54° 25′ the Cumbrian mountains abut on the heights of the Penine chain. The Cumbrian mountains, from their geological constitution and their great elevation, possess quite a distinct character from the lateral offsets of the Penine chain, though they form with this main chain one continuous mass of high land. The Cumbrian mountains stand like a barrier, and interrupt that extensive plain which, commencing on the north side of the Solway Firth, is con-

* Mr. Winch. London Geolog. Trans. vol. iv.

tinued on the south side of the same æstuary, and appears again below Kendal, spreading along the whole coast of Lancashire and through Cheshire, to the sources of the Weaver.

In their southern progress from the latitude of the Cumbrian mountains, the central high lands spread out in wide moors and rounded mountain-tops; they exhibit also, in some of the narrow valleys bordered by limestone rocks, the sharp rugged features of lofty mountain scenery. On the east they run out into the great plain in which the town of York stands, and on the west they encroach on the flat lands that lie like a belt round the coast of middle and southern Lancashire. This coast is really a plain country, as distinctly marked by this character as the mountain plains of the Tweed valley are by their peculiar form. About the lat. of 53° 35′ the Penine chain, after forming the boundary between Yorkshire and Lancashire, and in part under the name of the Blackstone Edge, enters Derbyshire, when it spreads out into a high broad table-land cut by deep valleys, which are bordered by elevated summits. The mountain mass gradually sinks down on the banks of the Trent in 52° 50′ N. lat., after a course from the banks of the Tweed near Coldstream of about 210 miles.

If we take the source of the North Tyne, which is about six miles south-west of Carter Fell, and draw from it a line of about forty-two miles due south, we shall strike Cross Fell at the source of the Tees.

	N. lat.	W. long.
The point six miles S. W. of Carter Fell is	55° 18′	2° 30′
Cross Fell is about	54° 42′	2° 33′

The line joining these two points will mark with tolerable accuracy the boundary between the waters that run to the east and those that enter the western sea, between the two limits. But here, as in other parts of the mountain-range farther south, there is no continuous ridge which serves as a watershed. The high land spreads out in broad irregular masses, furrowed by long parallel valleys, having a general north and south direction, and opened upon by lateral valleys which furnish the small subsidiary streams. Nor are the highest points always found nearest the general line of the watershed. Cross Fell contains the sources of the South Tyne and the Tees; near its top there is much marshy ground, and a spring of very clear cold water. From this point two masses of high land run eastward, forming the long narrow valley of the Upper Wear; these ranges extend about twenty-five or thirty miles eastward from Cross Fell. A line of twenty-three miles drawn from Cross Fell to 54° 27′ N. lat., 2° 7′ W. long. lies in a S. S. E. direction, and so far nearly parallel to the course of the Tees. We may consider this point as the centre of the mountain-system of North England. The high land here spreads out to the greatest extent, forming an extensive elevated region of hills, mountains, wide-spreading moors, and valleys. Near this point we find the sources of the chief affluents of the Ouse, which flows into the æstuary of the Humber; of the Eden, which flows into the Solway Firth; and within twelve or fifteen miles the upper waters of the Lune, which flows into Lancaster Bay, and of the Ribble, which also flows into the Irish sea. As we advance from the valley of the Eden eastward towards Cross Fell, we approach the western escarpment near Melmerby, Gamblesby, &c., and the ascent is more steep than on the east side. On descending into Teesdale, or any other of the dales on the east side, the slope is much more gradual*.

Cumbrian Mountains.

The great mass of the Cumberland mountains runs due west, as we have already remarked, on the parallel of 54° 25′, and terminates about Dent Hill (1115 feet high), a few miles from Whitehaven: Dent Hill is the last of the slate-mountains in this direction towards the Irish Sea. The length of mountainous country measured on this parallel from Richmond in Yorkshire, to St. Bees' Head, is nearly eighty miles; but the high land connected with St. Bees' Head is separated from the mountains east of Egremont. The extreme length of the Cumbrian mountains from east to west (measured from the point where they abut on the Penine chain) is, perhaps, about 35 miles: the extreme breadth of the mass from north to south, that is, from Fell Top near Hesket Newmarket, in Cumberland, to the slate quarries near Ulverston in Lancashire, is about 37 miles. These mountains occupy more than a third of the whole county of Cumberland, perhaps one-fifth of Westmoreland, and a small part

* Dr Barnes, Carlisle.

of North Lancashire. The Solway Firth on the north, and Morecambe Bay on the south, the Irish Sea on the west and the Penine chain on the east, are the limits of this peculiar district, which differs from all other parts of the division of the island which we are now considering, and can only be compared, as to position and some of its most striking physical characteristics, with Wales. The geographical features of the Cumbrian mountain district present more striking contrasts than any other part of the island: in the south and central parts we have a mass of lofty, rugged mountains, deep valleys, and extensive lakes; in the north and north-eastern parts we have an extensive plain stretching in a north-eastern direction from Maryport on the Irish Sea, for about 30 miles, with a breadth in some places of 10 miles*.

In the lake district of Cumberland the slate-formation of this island is said to be most distinctly developed, and to consist of three divisions, which it is important to notice, because the form and position of the mountain-masses are dependent on them. The lowest series of the slates, which is soft, dark, and much contorted, ranges by Saddleback, Skiddaw, Grisdale Pike, and Dent Hill, on the northern side of the axis of the Cumbrian mountains. It appears "on the margins of Bassenthwaite, Derwent, Buttermere, and Crummock waters, forming smooth insulated mountains, down which the streams run in right lines." Between Skiddaw and Saddleback hornblend is mixed with the lower portion of this rock, and changes it into hornblend slate, which rests on a fine-grained gneiss, and this again on granite. The second division of slates is much quarried, and comprehends the mountains of Helvellyn, Langdale Pikes, Sca Fell, and the lakes Ulleswater, Grassmere, and Ennerdale, and in fact marks pretty nearly the line of the watershed. The third and most recent series of slates lies south of this craggy mass, and runs along the heads of Winandermere and Coniston Water to Broughton on Duddon. These rocks are much harder than the lowest series, and consequently form a more rugged surface than those to the north of the middle slate division; but are themselves inferior in grandeur and wildness of character to the slates of the middle series*. The formations which constitute the main mass of the Penine chain may also be traced to a considerable extent around the Cumbrian mountains lying upon this nucleus, "as the layers of a piece of wood are seen to do in a surrounding knot." The coal formation, one of the most interesting to trace, does not appear on the south side of the mountains, but it is seen on the west coast near Egremont, extending past Whitehaven and Cockermouth to Maryport. From Maryport it runs towards Hesket Newmarket, which is N.E. of High Pike (2100 feet), and then takes a S.E. course with some interruptions to the neighbourhood of Shap and Orton, which we may consider near the junction of the Penine group and the Cumbrian mountains. The newer red sandstone, which forms the basis of the Eden plain, covers these coal measures on the north side of the Cumbrian mountains†.

The Solway Firth and the gulf into which it opens may be considered as the recipient of the waters of a great amphitheatre of mountains, whose outer margin may be traced, from the high land opposite Ailsa Rock, along the watersheds already described, nearly to St. Bees' Head. The coast of the Solway Firth on the Cumberland side, westward of the outlet of the Eden, is flat till we approach Maryport, which is beyond the limits of the Firth. Between Allonby and Maryport there is some high land and rocks near the coast. The high land extends to Ellenborough, and farther south towards Workington forms a ridge, which is cut by the Derwent, a river that comes from the northern side of the Cumbrian mountains. This high land runs south along the coast to Whitehaven and St. Bees. St. Bees' Head is a bluff rock of new red sandstone overlying magnesian limestone: it is said to be 222 feet high. This high coast land, however, is detached, as we have remarked, from the eastern mountains; and indeed the sea is supposed once to have run up from St Bees north to Whitehaven, which is indicated by the low pasture lands, in which anchors have frequently been discovered‡.

The highest points of the Cumbrian range are not always found near the axis of the range—a remark that applies to many other mountain-ranges.

* See Greenwood's Map of Cumberland, 1823.

* J. Philipps, Lond. Geol. Trans. vol. iii. second series.

† Phillips and Conybeare. ‡ Dr. Barnes.

Helvellyn, which is nearly the highest point, is also the centre of the Cumberland mountains. Pillar, about eleven miles west of Helvellyn, is also in the axis of the mountains; but the elevated summits of Skiddaw and Saddleback, on the north side of the range, are from eight to ten miles north of Helvellyn; and Black Comb, on the west side of the Duddon æstuary, is above twenty miles S. S. W. of the same point.

The following are the highest summits of the Cumbrian range:—

	Feet.
Helvellyn	3055
Skiddaw	3022
Pillar, near Wast Water	2893
Saddleback	2787?
High Pike, near Hesket Newmarket	2101
Grassmere Fell	2756
Sea Fell (High Point), near Eskdale	3092
Coniston Fell	2577
Bow-Fell, near Eskdale	2911
Black Comb, near Duddon mouth	1919

The snow lies on the highest parts of the Cumbrian mountains for six or eight months in the year; but it seldom lies more than a few days on the low coast.

The mountains that belong to the eastern portion of the Cumbrian range, where it joins the Penine chain, are generally of a much less abrupt character than the most western mountains. The height of the highest point of the road between Kendall and Shap is stated to be 1187 feet*. Peat moss is abundant on the highest parts of several elevated mountains of this district; the summits of these hills are, however, generally covered with a dry soil, resting on a hard blue rock called rag.

The Valley of the Eden, and the Lakes of the Northern Side of the Cumbrian Mountains.

The Eden† rises near the sources of the Yore and Swale (about 54° 23′ N. lat.), which form the Yorkshire Ouse: it runs at first due north in a very narrow valley to Kirkby Stephen: a little to the north of the town it has a general north-west, but irregular, course, past Appleby, Kirk Oswald and Carlisle to the Solway Firth. The tide occasionally runs up the river to within four miles of Carlisle, and it is not interrupted by locks; the water is salt to within about five miles of Carlisle*. The length of its course may be about seventy-two miles; but the Eden is not a navigable river of any importance. The plain of the Eden is chiefly a red sandstone, said to be identical with the sandstone of Lancashire, Cheshire, Salop, and Yorkshire. The east side of the plain of the Eden is bounded by the precipitous escarpment of the Penine chain, extending from S. to N., from Brough, past Dufton Fell and Cross Fell to Croglin, Castle Carrock Fell, and the hills S.E. of Brampton near the Irthing river. The elevation of a great part of this escarpment is from one to two thousand feet. Parallel to this escarpment, and near its base, there is a detached range of high ground, encroaching on the plain, and running S. and N. from Murton Pike to Melmerby-lane-end†. The chief affluent of the Eden on the left bank is the Eamont river, which consists of an eastern and western branch. The eastern branch, which comes from Shap Fells, is joined on the left bank by a stream which runs through Hawes Water: the united river, under the name of Lowther, runs north between Knipe Scar and Dovack Moor, past Lowther Castle, and joins the Eamont on the right bank at Brougham Castle. The Eamont is formed by the streams which come down Patterdale, Grisdale (containing Grisdale Tarn), and from Red Tarn on Helvellyn. These streams fall into the noble lake of Ulleswater, about 8 miles long, and on an average half a mile broad: flowing from this lake, the river takes a N., N E., and finally an eastern course, and joins the Eden on the left bank at Staingills. The Caldew, which joins the Eden on the left bank at Carlisle, flows from Skiddaw, which, with High Pike immediately N.E. of it, is opposite to Cross Fell on the east side of the Eden valley. The Petterill, which has a general northern course from the high land near the northern extremity of Ulleswater, joins the Eden on the left bank just above Carlisle.

The largest affluent of the Eden on the E. bank is the Irthing, which comes down from near Christenbury Crag (55° 8′ N. lat.) with a general southern course through a longitudinal valley: it then turns S.W. through a more level country, and joins the Eden

* Wm. Allen, Geol. Trans. vol. iv.
See Greenwood's Map of Westmoreland, 1824.

* Dr. Barnes, Carlisle.
† Prof Buckland, Geol. Trans., vol. iv.

on the right bank about five miles above Carlisle. The steep escarpment already described prevents the formation of any other large affluents on the E. side of the Eden.

The river Derwent forms the most numerous and interesting system of lakes in Cumberland. The branch which descends past the west side of Helvellyn forms the Thurle Mere or Leathes Water in a long narrow valley, lying due north: the mass of Saddleback turns the stream from a northern to a western direction, four miles below its exit from this lake, and it then runs past Keswick, under the name of Greta, into the northern extremity of Derwent Water Lake. The Derwent Water Lake is filled with the waters that descend in a northern direction from the Borrowdale Fells and other elevated summits. The Greta and Derwent, uniting at the northern outlet of the Derwent Water, run in a N.N.W. direction along the western base of Skiddaw into the lower basin of Bassenthwaite Water. From the outlet of this lake the Derwent has a tortuous general western course to Cockermouth. From Cockermouth the Derwent takes a western course to the sea at Workington. At Cockermouth it is joined on the left bank by the Cocker, which is fed from two valleys; the more easterly and the more elevated contains the basin of Buttermere and Crummock Waters, which are nearly on the same level*: the western is called Lowes Water.

The heights of some of the lakes above the sea-level, on the north side, as nearly as has hitherto been ascertained, are as follows:—

North Slope.	Feet.
Red Tarn, Helvellyn	2400
Sprinkling Tarn, Borrowdale†	1900
Hawes Water (Eden River) .	714
Thurlemere	473
Ulles Water	460
Crummock Water	250
Derwent Water	288
Bassenthwaite Water . . .	210

The southern side of the Cumbrian mountains bears a considerable resemblance to the northern: its branches run southwards with a less elevation but more rugged forms. Black Comb (1919 feet), near the western outlet of the Duddon æstuary, which presses close on the shore, forms a conspicuous and interesting object when seen from some parts of the Lancashire coast: this mountain is the south-west limit of the great Cumbrian high lands.

Valley of the Lune, Winander Mere, &c.

The Lune,* or Loyne*, rises on the southern slope of the Shap Fells, and collects the waters of the slate district of Langdale and Shap Fells and from the limestone surfaces at Orton: it runs through a deep glen past Hougill Fells, which are above 2000 feet high†. The Lune then flows past Kirby Lonsdale in a long narrow valley of great beauty, and forming a fine grazing country, nearly due south, and then S.W., past Hornby, to Lancaster, a distance of about forty-five miles. Below Lancaster, it opens into a wide æstuary. It has no affluents of any size, except on the east side, all of which come from the central high lands. The chief streams that join it on the east are the Rother, the Leckbeck, the Greta, and the Wenning. The tract between the valleys of Lune and Wharfe has the finest mountains, caves, and scars in Yorkshire, and is remarkable for an isolated mass of slate, the same as the third series of the Cumbrian slates, which spreads eastward from the valley of the Lune, under the limestone and grit summits of the great mountains of Greygarth or Gragreth, Ingleborough, and Pen-y-gant. A great number of boulder-stones are found in the diluvial banks of the Lune: here we have the "granite of Shap Fells, the porphyry of High Borrowbridge, and various hornstones, with limestone, grit-stones, and slate from the neighbouring hills‡."

The Rother joins the Lune on the east bank, below Sedbergh. Kingsdale, a branch of the Greta, rises in the limestone and shale between Greygarth Fell and Wharnside: passing south through a valley bounded by limestone cliffs, it forms a water-fall about forty feet high, and just at this point the limestone is seen resting on the slate, which forms the lower half of the precipice. (Phillips.) Near Ingleton it takes a western course to Black Burton, below which it joins the Lune. The great mountain Wharnside (2384 feet high) may be considered as belonging to the Lune valley.

* Mrs J. Phillips, York.

† Or Sparkling Tarn, according to some authorities: in some maps it is placed just to the north of Sca Fell, and appears to be made the source of the Wast Water.

* See Greenwood's Map of Lancashire, 1818.

† J. Phillips, Geolog. Trans. vol. iii. 2d series.

‡ J. Phillips.

The Lune is navigable to Lancaster for small ships.

The Kent, the river of Kendal, is formed by several streams originating near the head streams of Hawes Water and in Shap Fells: it runs past Kendal (which is 138 feet above the sea level) into Morecambe Bay.

The greatest of all the lakes in the Cumbrian mountain system is Winander Mere. Its waters are supplied from numerous streams and more elevated smaller lakes, such as Rydal Water, Grassmere, Elter Water, and numerous higher tarns. This large lake is formed by a long narrow valley, bounded by hills, in general of no great elevation; it lies due north and south, is nearly ten miles long, about a mile across in its broadest part, and discharges its waters by a small stream into Ulverston sands. Coniston Lake, otherwise called Thurston Water, which is fed from various tarns (small lakes) and streams from Coniston Fells, is about six miles long, and from a half to three-quarters of a mile broad; it lies in a long narrow basin, parallel to that of Winander Mere, and bounded on each side by a range of mountains; its waters are discharged into Ulverston sands by the little river Cruke. The greatest depth of this lake is stated at 240 feet; it abounds in char, trout, and perch. The mountains between Coniston and Duddon river run down close to Broughton on the Duddon, and also near to Ulverston, a few miles north of which town slate quarries are worked.

Proceeding westward, we find the lake of Wast Water, lying in a valley which has a S.W. direction; and proceeding still farther west, we find Ennerdale Lake, lying in a long valley, with a direction about W. by N. The valley of Buttermere and Crummock, already mentioned, lies first about N.W. and then about N.N.W., which is also the direction of Bassenthwaite. Ulleswater lies about N.E. These lake-valleys are thus the truest indications of the form of the mountain system, the axis of which, as we have already stated, branches at right angles from the back-bone of the island, and runs nearly west. Its arms or ribs run outwards from the central line, forming valleys that open to all the points of the compass, from the valley of the Eden north, passing through the west point to the southern valleys of the Kent and Lune.

The following are the elevations above the sea-level of some of the lakes on the south slope:—

	Feet.
Esthwaite Water	198
Grassmere Water	196
Winander Mere	116
Wast Water	160
Coniston Water	105

The Valleys of the Tyne, Wear, and Tees, on the East Side of the Island.

The rivers Aln, Coquet, Wansbeck, and Blyth, which lie between the valleys of the Tweed and Tyne, will come into the particular description of Northumberland. Between the Aln and the Coquet, we find the high land stretching down to the coast: Spylaw Tower, two miles W. of Alnmouth, is 346 feet; Shilbottle, a limestone hill S.W. of Spylaw Tower, is 573 feet. The extensive heath commencing with Alnwick Moor, which runs S.W. from the Aln towards the Coquet, under the names of Aydon Forest, East Moor, Framlington Moor, is about 800 feet in its greatest elevation. The mountain-region of the Cheviots, from the head of the Coquet down the stream as far as Alwinton or Allenton, which is on the north bank of that river, consists in general of fine green hills, presenting a great variety of form, and numerous deep narrow glens. From Allenton, this green mountain region runs north, past the head waters of the Aln, to Wooler, and then to Mindrim, a few miles from the Tweed. This is the district already described as nearly surrounded by the Till and the Beaumont.

The Tyne* has its most north-eastern source in Carter Fell, 10 miles S.W. of Cheviot Hill†, from which it flows in a long valley in a S.E. direction for sixteen miles, under the name of the Reed: it then takes a S. by W. course for six miles, leaving on the east the hills called the Otter Caps, and is joined at Reedsmouth Hall by the branch called the North Tyne. The North Tyne rises about four miles west of the Reed, in Keelder-Head‡: it has first a southern, and then a south-eastern course, to its junction with the Reed, one mile and a-half below Bellingham. These rivers flow through a country of mountain heaths and barren uncultivated wastes, except some small portions near the

* See Greenwood's Map of Northumberland.
† Rev. Mr. Turner, Newcastle on Tyne.
‡ Mr. Turner.

streams: they contain between them the High Field Moor and the Hareshaw Moor. The united stream, below the point of junction, enters the coal country, and continues its course in a general S.E. direction, to about 55° N. lat., where it is joined by the South Tyne. The South Tyne rises in swampy ground about seven miles E. of the summit of Cross Fell, and about forty-five miles in a direct line due south of the northern source: it runs due north in a long elevated valley through Alstone Moor, for about twenty miles to the neighbourhood of Haltwhistle, when it runs nearly east for sixteen more, and joins the other branch near Hexham. About a mile and a half before it reaches Alstone, the South Tyne is joined by the Blackbourn, which rises among some freestone rocks on Cross Fell, and also receives some small affluents from the east side of the great mass of Hartside Fell. At Alstone the South Tyne receives on the right bank the Nent, which runs through a lead-mine district: the bed of the Nent is separated from that of the Tyne above Alstone by high land, in which we find Middle Fell. The height of Alstone Moor is at least 1000 feet above the sea level. About nine miles above the junction of the North and South Tyne, the South Tyne receives on its right bank the Allen, a tributary, which flows north from the lead-mine district of Allendale, which is a country of mountain heath. A high tract of land runs northwards between the South Tyne and the West Allen (a branch of the chief Allen), forming, as it approaches Haltwhistle, the Plain Meller Fell. The united stream runs from Hexham a general east course, with two considerable bends, past Newcastle, and enters the sea at South Shields. The whole course of the Tyne, measured along the south branch, is about eighty miles. The Tyne like the Tweed, abounds in salmon: the tide ascends this river about sixteen miles, or six or seven miles above Newcastle.

The lower Tyne Valley is contracted on the north by a slight elevation, which separates it from the parallel northern valley of the Blyth; and consequently it has not a single affluent on the left bank which is greater than a small brook. On the right bank it has numerous affluents, which flow into it from the high lands which bound the narrow valley of the Upper Wear; of these, the Allen and the Derwent are the largest. The Derwent joins the Tyne 2½ miles above Newcastle.

The Tees* river rises in a swamp, about a mile from the sources of the South Tyne, and the two thus encircle a large tract of country. The Tees runs as far as Barnard Castle, or even to the junction of the Greta, in a long narrow valley, in a general S.E. direction, for about thirty-five miles; into this valley there open on the west side a number of deep lateral valleys, all of which are united at their heads in the great mountain plains. Many of these valleys, such as the Deepdale and Greta, are remarkable for their picturesque beauty. Basalt begins to be conspicuous on the Tees at Caldron Snout, on the high moors ten miles above Middleton, and forms a series of falls for 596 yards. The basalt also interrupts the river near the steep acclivity terminating Cronkley Fell (below Caldron Snout), and makes a cataract called the High or Mickle Force, where the water falls 56 feet, or perhaps 69 feet†. It is, in fact, all one range of basalt from Caldron Snout by High Force and Miners' Bridge to Lonton near Middleton in Teesdale‡. From Barnard Castle the Tees runs eastward for about eight miles, when it takes a great bend to the S.E., and after a very winding course through a flat country, the latter part of which is to the N.E., it discharges itself below Stockton, at Cleveland Point, into a wide æstuary. Hartlepool Point, on the north side of the Tees æstuary, is a bold mass of magnesian limestone. With the exception, perhaps, of the Thames, few rivers have so winding a course as the Middle and Lower Tees. Its whole course cannot be much less than eighty miles. The only affluent of the Tees on the right bank, in the lower part of its course, is from the high moors on the east coast of Yorkshire. The Skerne, on which Darlington stands, runs a due south but tortuous course, and joins the Tees on the left bank.

The country bounded on the north and the west by the Tweed and the Till respectively, and stretching south to the Tees, is one of the great coal formations of England: a straight line drawn from Norham, on the Tweed, to the junction of the North and South Tyne, and prolonged south, forms the *general* western

* See Greenwood's Map of Durham.
† Winch, on the Geol. of Northumberland and Durham. Geolog. Trans. vol. iv.
‡ Mr. J. Phillips.

limit of this coal-field, as now known. Its eastern boundary is traced all along the coast, and the coal beds exist also below the bottom of the sea.

The valley of the Wear is contracted to very narrow limits between those of the Tyne and Tees. It rises in the high range which forms part of the eastern boundary of the South Tyne valley; and the head waters of the Nent and the Wear, which ultimately reach the same sea, are on opposite sides of the same high land. The source of the Wear may be placed in the lead-mine district about Killhope Head. At a place called Burtree Ford, this mountain brook first takes the name of Wear. The course of the stream through Weardale is bounded on both sides by high hills: as far as Bishop Auckland, its general line is about E. by S., or a little more south; from Bishop Auckland it runs, by a very winding course, past Durham, to a point about N. by E., from which it deflects more to the east, and enters the sea at Sunderland, seven miles from the outlet of the Tyne. Its whole course is between sixty and seventy miles. In the high lands which bound the north side of the Wear Valley, there is Killhope Hill (2196 feet) near the chief source of the Wear, Collier Law (1678), two or three miles east of the meridian of 2° W., and Brandon Mount, three miles S.W. of Durham, 875 feet.

Pontop Pike (1018 feet), about 11 miles N.E. of Collier Law, is in the high land which is a continuation of that between the upper parts of the Wear and the Derwent: it follows the course of the Derwent at a short distance from its right bank till it terminates a little to the west of Newcastle. The road from Carlisle to Durham passes out of the Nent valley into that of the Wear, near Killhope Head.

From the point where we marked the abutment of the Cumbrian range, the mountain mass runs in a general southern direction, as far as the line of the Rochdale Canal, which passes over a great depression in the back-bone (53° 44′ N. lat.) of the mountains, and connects the waters of the Mersey on the west, with those of the Calder on the east. But the high land does not consist of a single ridge, but of numerous ranges, which, forming small angles with the axis of the mountains, have a general southern course, and make long narrow valleys. Measuring from the neighbourhood of Garstang, on the little river Wyre, in Lancashire, to near Knaresborough, in Yorkshire, we find the mountains occupying a breadth of at least fifty miles. A line joining these two towns crosses seven principal streams, running from north to south, and innumerable smaller brooks, running in the same direction. A line drawn from Kendal, in Westmoreland, to Hull, in Yorkshire, will indicate still more clearly, by the number of river-courses which it intersects, the general direction of the valleys and streams in this part of the island.

The coast of Lancaster, from the æstuary of the Kent, is generally flat. It comprehends the country bordering on Morecambe Bay as far as Lancaster, and the low, undulating country called the Fylde, which lies to the west of the road from Lancaster through Garstang to Preston on the Ribble. The country south of this, between the Ribble and the Mersey, contains a still more extensive flat. A broad band of level country, consisting of a loam of various qualities, (in which districts of peat moss often occur,) may be traced from the neighbourhood of Manchester along the Irwell and Mersey to their confluence, and afterwards along the north bank of the Mersey, west of Prescot, past Liverpool, west of Ormskirk, and then in a N.E. direction to Preston. This circuitous band encircles the high lands that stretch out from the moors lying south of Blackburn, in a S.W. direction. These high lands pass between Chorley and Bolton, and contain Rivington Pike, 1545 feet high: they also show themselves in the moors near Wigan, and continue west, in the line of Billinge Beacon (633 feet) and Ashurst's Beacon, to Ormskirk: Gaw hill, near this town, is 394 feet high. A branch of the high lands runs also to the banks of the Mersey, near Liverpool. The sandstone which is occasionally worked near Wigan and Ormskirk, and characterizes so large a part of this portion of Lancaster, shows itself even west of the line of the Leeds and Liverpool Canal, in the flat lands on the border of the peat mosses. These high lands of South Lancashire, about Manchester, and to the north and west of it, contain great fields of coal, probably connected with those of N. W. Derbyshire, and those of Cheshire, in the neighbourhood of Macclesfield. The coal extends west to Prescot, about seven miles east of Liverpool, and to Latham, a short distance to the east of Ormskirk.

Valleys of the Ribble and Wyre.

The general line of the central mountains pressing much more to the western than the eastern side of the island, reduces the fresh-water streams of Middle Lancashire to insignificant rivers, and but for their course through the long narrow valleys lying north and south, rivers, properly so called, would hardly exist. The æstuaries, or tide-water outlets, as far as the Dee inclusive, from the æstuary of the Duddon in North Lancashire, are wide and spacious. The only stream of any importance that enters the Irish Sea within the mountain limits just described, is the Ribble, which rises near Wharnside, a high hill (2385 feet), nine miles N.E. of Kirby Lonsdale, on the Lune. Wharnside is stated by a late observer* to be 2056 feet above the Greta, a tributary to the Lune. The Ribble flows in a valley for some distance parallel to that of the Lune, leaving on the west, a little below Wharnside, the high hill of Ingleborough (2013 feet above the Greta†: its course is south, past Settle, (a town at the elevation of 621 feet,) for about 20 miles; it then takes a S.W. direction for about 30 miles, past Clithero and Ribchester, through the beautiful valley of Ribblesdale, to Preston, at which town it enters the low country, and becomes a tide river. The base of Ingleborough, which is about thirty miles in circuit, consists of limestone, which also forms the basis of Wharnside, and of Pen-y-gant, opposite to Ingleborough, on the east side of the Ribble. These calcareous rocks prevail along the course of the Ribble as far as Clithero, near Pendle Hill (1805 feet)‡. Limestone is also found as far as Ribchester§, lower down the river, but to the west of a line drawn from this point to the limestone of Derbyshire, no limestone, we believe, is found. Between Lancaster and Ingleborough there occurs a detached coal-field, probably of no great extent, but it is still incompletely explored. The Hodder, which flows from the north, and from the moors east of Hornby Castle, leaves Bleasdale Moors and Longridge Fell to the west, and runs in a long valley, like the main stream; the Calder, which comes down a side valley, with a general S.E. course from the high moors between Colne and Burnley, takes a turn to the N.W. past Whalley, and joins the Ribble on the left bank: these two affluents join the main stream nearly opposite one another, about fifteen miles above Preston. The Darwen rises on the N.N.W. side of the high Darwen Moors*, runs within a mile of Blackburn, and joins the Ribble on the left bank, near Preston. Below Preston, the Ribble becomes one of the wide æstuaries which characterize the Lancashire coast. This æstuary is shallow and fordable at low water, at Hesketh Bank, where it is four miles wide. The tides run about three miles above the bridge at Preston, and the river is navigable for small vessels up to the bridge†.

The Wyre rises in a morass called the Featherbed, S.E. of Lancaster: it has a general southern course through the vale of Lower Wyresdale to Garstang, a little south of which town it takes a west and then a N.N.W. course, forming a large æstuary, which is much contracted at its outlet near Rossal Point. The tributaries to the Wyre, such as the Calder, all come from the high lands of Bleasdale and Barnacle Moors, (the highest points of which are 1710 feet,) which are the farthest projections of the high lands westward in this part of Lancashire. The country to the west of the Upper Wyre and the road from Preston to Lancaster, is generally a level or slightly undulating arable country, containing extensive peat mosses north of Lytham, at the outlet of the Ribble, and the extensive mosses of Pilling and Cockerham, W. of Garstang.

South of the point where the Rochdale Canal crosses Blackstone Edge, the spine takes a S.S.E. direction for about fifteen miles, as far as the latitude of Manchester; within these limits there is one tolerably well-defined ridge, which is the boundary line of the eastern and western waters. From the central mass of Holme Moss, and the adjacent hills, the high land runs eastward between the Don and the Calder, as far as Wakefield and Barnsley: eastward of a line joining these two towns, the country is still hilly, but the elevations gradually subside, and terminate a little to the east of the great north road from Doncaster to York, in the level country spreading eastward to the confluence of

* Mr. John Nixon, Leeds, 1834. † Idem.
‡ Conyb. and Phillips, p. 307.
§ Rev. Mr. Baker, Bolton.

* Rev. Mr. Baker, Bolton.
† Mr. J. Wood.

the Ouse and Trent*. Holme Moss consists of deep peat resting on grit: the Huddersfield turnpike crosses this moss at a greater elevation, it is supposed, than any road south of this in England.† But south of the parallel of Manchester, the mountains again begin to spread out, forming an extensive tract of high land, traversed by various ridges and valleys, and known under the general name of the Derbyshire mountains. Though, when crossed in some directions, they present at first sight to the eye a confused heap of round-backed eminences, they are characterized, like all the northern mountains, by forming long principal valleys, with numerous smaller lateral valleys. The breadth of the group, from west to east, measured from Macclesfield, in Cheshire, to Sheffield, in Yorkshire, is about twenty-two miles.

The high ground of the Derbyshire range rises gradually from the south and east to the W. and N.W., which contains the highest parts. From a point near the sources of the Ethrow, an affluent of the Mersey, and those of the Yorkshire Don, the watershed which separates the western and eastern streams runs in an irregular S.S.W. direction, passing to the west of Buxton, and to the sources of the Dove, an affluent of the Trent, and those of the Dane, an affluent of the Weaver, which itself falls into the æstuary of the Mersey. The watershed is continued in the Mow Copt Hills, past Talk on the Hill, and three or four miles N.W. of Burslem, to the high lands forming the south boundary of the Weaver basin, and giving origin to the Shropshire affluents of the Severn. Mow Copt station is 1091 feet high. The highest eminences in the Derbyshire mountains lie on this watershed: Blakelow Stones, near the angle formed at the sources of the Ethrow and the Derwent; Kinderscout Hills, in the same ridge, a few miles farther south, 1800 feet high; and Great Axe-edge Hill, or Axe-edge Hill North, (of shale and shale-grit on the top,) near the sources of the Goyt, Dane, and Dove, and close to Buxton, which is 1751 feet high. Axe-edge Hill Middle, and Axe-edge Hill South, are two other eminences on the watershed, a few miles to the south. We have remarked, that the Derbyshire Hills rise to the W. and N.W.: this will appear from the line of the Cromford Railway. The Cromford and High Peak Railway runs by a circuitous line from Cromford to the north side of the Axe-edge Hills, where it makes a great turn to avoid a valley: it then runs within a mile of Buxton, and past Goyt's Bridge to the Peak Forest Canal at Whaley Bridge. Its entire course is thirty-three miles, seven furlongs; it attains an elevation of 990 feet above the level of Cromford, or 1271 feet above the sea low-water mark*.

The watershed, which separates the affluents of the Severn and other streams on the south-west, the south, and east, from the great drainage of the Trent, is not marked by any striking elevations or mountainous features, like those which separate the Derbyshire streams entering the Trent from those which flow into the Mersey. If a line be drawn from Audley, about 4½ miles W. by N. of Burslem, to the junction of the Birmingham and Liverpool Canal, near Norbury, with the collateral branch past Newport (a town near a line joining Stafford and Shrewsbury); and if the line of this canal be then followed through Brewood and Wolverhampton to Dudley, it will define with considerable accuracy the boundary between this part of the Trent and Severn basins. At the point where this line strikes the canal, the elevation is 344 feet 9 inches; at Wolverhampton, it is 484 feet 4 inches, and the same at Dudley. A line drawn from Dudley to the south extremity of Westhill Tunnel (464 feet 5 inches high), seven miles S.S.W. of Birmingham, separates the affluents of the Trent from those of the Stour, a branch of the Severn: this line leaves a little to the west the high lands of Hagley Park. The line of the watershed continues from Westhill Tunnel, curving a little to the south, and then turning north to Coventry (elevation 315 feet 6 inches), to Bedworth, 5½ miles N.N.E. of Coventry, and at the same elevation; it then proceeds to Lutterworth, and from Lutterworth to the summit level of the canal (348 feet 3 inches), between Leicester, on the Stour, (a branch of the Trent,) and Market Harborough, on the Welland, which flows into the Wash. From Market Harborough it runs to Oakham (362 feet), along the high lands between Leicester and Oakham. From Oakham, a line drawn to Newark, and continued north, close upon the east bank to the Trent,

* Mr. Alexander, Doncaster.

† Farey's Derbyshire. For Derbyshire generally see also Glover's Derbyshire, 1829.

* Priestley.

to its fall into the Humber, will complete the general outline of the Trent basin.

The general character of the Derbyshire mountains is that of a high undulating table-land, rising towards the W. and N.W., as already described. The valleys are in general deep grooves in the high land, and the hills, which lie in a line so as to form the appearance of tolerably continuous ridges, follow the direction of the river valleys. To describe all the ridges of this system, of which more than forty have been enumerated, would require a separate treatise; but a few deserve a more particular notice.

A high ridge, proceeding north from the knot near Buxton, forms the elevated tract between Buxton and Macclesfield and the western boundary of the Goyt Valley, down to its junction with the Ethrow at the Water Meetings. Goyt's-head Tor, a high hill near the road from Macclesfield to Buxton, belongs to this ridge.

What is called the Peak of Derbyshire is not an isolated lofty summit, nor yet an Alpine region. It contains a large proportion of moors and high land; and lying in the N.W. part of the county, between the valleys of the Goyt, and Upper Derwent, may be considered as the nucleus of this mountain region.

The basin of the Trent, within the limits of Derbyshire, is subdivided into a number of smaller basins by long ridges, which have a general north and south direction. The Derbyshire streams, properly so called, are separated from those of the Trent of Newcastle and Stone by a ridge which shoots off from the watershed at Biddulph Moor Hill, S.E. of Congleton, runs past Bagnall, Dilhorn, Leigh, and so on, in the angle between the Trent and Dove, to their junction at Newton Solney Ford. This range forms the western limit of the Dove Valley, and its tributaries.

One of the great lines of the Derbyshire heights shoots off from the head of the Dove near Buxton, and runs in an irregular line S.E. for about forty-five miles, past Wirksworth, Brailsford, and a little to the west of Derby, to the junction of the Trent and Derwent at Wilden Ferry. It gradually decreases in height as it goes southward, and forms the limit between the chief valleys of the Dove and Derwent, and the lateral valleys opening into them on the east and west sides respectively.

The East Derwent ridge shoots off from the watershed at Dean Head Stones, near the sources of the Ethrow and Derwent, and forms the eastern boundary of the Derwent Valley. It runs irregularly south, turning a little to the east for about sixty-seven miles, to the junction of the Derwent and Trent. In the northern part of its course it leaves Bradfield and Sheffield on the east, and passes by Hathersage Hill, (1377 feet): opposite to Hathersage, on the west side of the Derwent Valley, is Lord's Seat, near Castleton, a trigonometrical station, 1751 feet high. The range continues its south course a little to the west of Holmsfield, Brampton, and Chesterfield, to Spitewinter Hill, on the road between Ashover and Chesterfield: here it turns a little to the east, and declines in height, passing to Over Moor, on the road from Tibshelf to Mansfield (which last is east of the ridge): it then turns S.W., leaving Alfreton on the west side, and then south, forming the boundary between the Lower Derwent and the Erewash: it next passes by Greenwich and Dale Moor to Wilden Ferry, at the junction of the Trent and Derwent.

This range, and its eastern offsets, is of great importance in the hydrography of the country lying east of it, and forms one of the great boundary lines of the waters which enter the Humber. From Dean Head Stones to Shepherd's Mosshouse Hill, near Holmsfield, it forms the boundary of the head-waters of all the numerous streams which compose the Yorkshire Don, and in its lateral offsets has some summits of considerable elevation. Bradfield Moor, N.W. of Sheffield, and near Bolterstone Chapel, in Yorkshire, is a trigonometrical station, 1246 feet high.

From the neighbourhood of Holmsfield to Over Moor, near Tibshelf, the East Derwent ridge forms the boundary of the head-waters of the Rother, which joins the Don at Rotherham. A range of hills, running north from Over Moor, forms the east boundary of the Rother Valley, and separates it from that of the Idle, which, heading between Over Moor and Sutton Hill, flows into the Trent at Stockwith.

A range of high ground, originating at Sutton Hill, on the East Derwent ridge, runs east, a little south of Mansfield, into Nottinghamshire; it then runs north, forming the south and east boundary of the Idle, to the junction of

that stream with the Trent. Gringley Beacon, in the angle between the junction of the Idle and Trent, is 235 feet high.

We have traced the margin of the Trent basin from the head of the Dove Valley, along the circular sweep which includes the Trent Proper, the Sow, the Penk, the Blyth, and the head of the Anker, near Coventry. North-east of Coventry commences an extensive range of high ground, crossed by the Roman Watling road, which runs north, filling up a large part of the space between the Soar of Leicester and the Trent, past Market Bosworth, Bagworth Colliery, Bardon Hill, along the confines of Charnwood Forest, Swannington, Castle Donnington, to the junction of the Trent and Soar. Bardon Hill, about six miles W.S.W. of Ashby-de-la-Zouch, and near Markfield, Leicestershire, is 853 feet high, and a point in the trigonometrical survey. It is isolated, and consists of coarse slate and sienite. These high lands between Leicester and Ashby form the Leicestershire coal-field, where also abundance of limestone is found. From this compact mass several branches of high land spread out. From Swannington, a ridge runs in an irregular W.S.W. direction, north of Ashby, to the junction of the Mease with the Trent, near Croxall. Another range runs from the neighbourhood of Ashby to Scropley Hill, facing Burton-on-Trent. The general nature of this country is shown by the following fact—the Oxford Canal, which is at the height of 315 feet near Rugby, is continued past Coventry at the same elevation, and the communication with Ashby-de-la-Zouch is kept up by the Ashby Canal at the same height all the way. The direct distance between Rugby and Ashby is twenty-eight miles.

Valley of the Mersey.

Only one river finds its way from the Derbyshire mountains to the Irish Sea. The Mersey, under the name of the Tame, rises in Holme Moss, and running in a general S.W. direction is joined at Stockport by the Goyt, which rises near Goyt Moss Colliery, not far from Buxton, and running north in a deep valley, passes through the romantic New Mills Dale: it is bounded in its upper part by high ridges. At Water Meetings in Ludworth, the Goyt receives the Ethrow, which comes from the N.E., rising S.W. of Ladycross Hill, on the road from Stockport to Penistone, in Yorkshire. The Goyt and Tame form a junction at Stockport, and from this point the name of Mersey commences*. The united stream flows westward from Stockport into the low country. The Mersey now runs west, and after a course of about fifteen miles from Stockport, is joined on the right bank, a little below Flixton, by the Irwell, from Manchester. The source of the Irwell† is a considerable spring on Durpley Hill, near the high road from Bacup to Burnley: it runs a general S.W. and then a S. course past Bury, where it first takes the name of Irwell to its confluence with the Irk at Manchester. The Irk has its sources about Oldham and Royton. From the junction of the Irwell the river runs in a general W.S.W. direction for twelve miles to Warrington, making some very considerable bends; but before it reaches that town it becomes a tide-river; though the tide now ascends no higher than Warrington, being prevented by a lock or weir ‡. Before the Mersey reaches Warrington, it receives on the left bank the Bollin, the river of Macclesfield, which runs for a short distance in the same direction as the Goyt, but on the opposite side of the mountains. Below Warrington, and after the junction of the Weaver, it expands into a spacious æstuary, of great depth, which in several points of view above Liverpool, where it is widest, appears to be land-locked, and presents the appearance of a great lake. Opposite Liverpool, the æstuary is contracted from three miles, the greatest width above the town, to about half a mile. From Warrington to Rock Perch, at the south entrance of the river, is about twenty-five miles.

The Mersey receives no affluents of any magnitude on the right bank; on the left it receives, below Runcorn, the Weaver, one branch of which, under the name of the Dane, rises in the same bog as the Dove, and comes from the Derbyshire mountains, near Buxton, and passing by Congleton, unites with the main stream, the Weaver, at Northwich. The Weaver itself, though it falls into the same æstuary as the Mersey, belongs to a district which requires a separate notice.

Cheshire Plain.

The south-western and southern part of Lancashire, the county of Cheshire,

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* Mr. Coppock, Stockport.
† Rev. Mr. Baker, Bolton.
‡ Mr. Coppock.

and the northern part of Shropshire, are a level country, with a few inconsiderable elevations. From north to south, the length of this plain is about fifty, from east to west its average breadth twenty-five or thirty miles. The high range of sandstone hills running past Macclesfield, and along the borders of Derbyshire and Staffordshire, and containing beds of coal, forms the eastern boundary; these sandstone hills are bounded on the east by the limestone table-land of Derbyshire.

On the west side of Cheshire occurs the only ridge of hills, properly speaking, that exists in this plain. It extends, with few interruptions, from Frodsham, near the æstuary of the Mersey, southwards to Malpas, and includes the high level of Delamere Forest, Beeston Hill, and the Peckforton Hills. This range, which is entirely of sandstone, never exceeds 400 or 500 feet in height. Delamere Forest station is 596 feet. It forms the eastern boundary of the Dee valley, a river which belongs entirely to the group of the Welsh mountains. The southern boundary of this plain, which is neither uninterrupted nor of great elevation, consists of limestone and calcareous sandstone ridges: this is the only limestone known in Cheshire. A small ridge of sandstone hills may also be traced on the east side of this plain, from the singular sandstone hill of Alderley Edge, a few miles west of Macclesfield, to Halton and Runcorn, where its elevation is greatest, and where the channel of the Weaver separates it from the northern extremity of the ridge just described on the west side of Cheshire. The land west of the western ridge belongs, as we have said, to the Dee basin: the central portion is drained by the Weaver, the main branch of which rises in the Peckforton Hills, five miles N.N.E. of Malpas, runs for some miles S.E., then N., past Nantwich to Northwich, a total distance of thirty-five miles: it then has a N.W. course to Frodsham, where it opens into an æstuary, communicating with that of the Mersey. At Northwich it is joined by the united Dane and Wheelock, from the S.E. The valley of the Weaver, which, above Northwich, is comparatively wide and flat, is contracted at Anderton, a little below Northwich, by the approach of the Delamere high land on the west; and on the east by an offset from the high land running west to Runcorn. Thus the Weaver valley has two marked contractions below Northwich. The valley of the Weaver and its tributaries is remarkable for its salt-springs, and its rock-salt, which latter is now only worked near Northwich. As a general rule, the salt is found only in the basin of the Weaver and its affluents *.

The Ouse and Trent Valley, with the other Streams that enter the great Æstuary of the Humber.

This is the most extensive valley in England. It consists of two slopes, one lying from north to south, drained by the Ouse and its tributaries; the other lying chiefly from south to north, drained by the Trent. The valley of the Aire, with its tributaries, may perhaps be considered as a third slope, lying from west to east. The common level in which the three unite is the long spacious æstuary of the Humber. The greatest length of this valley, from north to south, is 140 miles: its greatest breadth, from east to west, (measured from about Halifax to the confluence of the Ouse and Trent,) is about fifty miles.

The Valley of the Yorkshire Ouse and its Affluents †.

The eastern boundary of this valley runs from the Tees to the Humber, forming in general a bold coast, and a high tract of country stretching from the coast westward into the interior, a distance, in some places, of from twenty to thirty miles.

South of the æstuary of the Tees we find the commencement of the high lands in Barnaby Moor (784 feet), Burleigh Moor (a trigonometrical station), and a little farther south, Gisborough Hills. These high lands run down to the coast at Huntcliff, and by the Easington Heights to Rocliff, or Rockliff, a little farther south. Easington (a trigonometrical station) is 681 feet. A small depression in the high moors opening to the sea at Whitby cliffs carries off the drainage of the inconsiderable Esk valley. The coast nearly from the outlet of the Tees to the Peak alum-works south of Whitby, shows the lias in its cliffs underlying the sandstones, shales, thin coal, and impure limestones, composing the moors‡. South of Whitby the bold coast continues, and the high moors spread out in the interior in round barren

* H. Holland on the Cheshire Rock Salt District. Geolog. Trans. vol. i. first series.
† Conybeare and Phillips. ‡ Mr. J. Phillips.

surfaces, forming an escarpment on the west side, about four or five miles east of Northallerton. This western escarpment and boundary of the moors makes a circular sweep, turning to the south and east as it approaches Malton on the Derwent. It contains the trigonometrical station of Black Hambleton (1246 feet). The high land, as it turns to the east from the neighbourhood of Northallerton, has a scarped side to the north, overlooking Cleveland.

Between Whitby and Scarborough, the North York Moors (as this high tract is sometimes called, but perhaps with more propriety the Eastern Moorlands) form a rounded elevated surface, abutting on the coast in bold cliffs: this central mass runs nearly due west, and contains Loosehoe Hill (a trigonometrical station) 1404 feet high; and about six miles due west of it, Botton Head, another trigonometrical station, 1485 feet. From this central line, which lies east and west, the moors slope south to the valley of the Derwent, forming rounded bleak hills, and valleys which are cultivated. Some parts of the high ground are boggy; others covered with loose rocks. In going from Whitby on the coast across the North York high moors, the general character of the country is bleak and barren till Pickering is passed on the road to Malton. The steeper side of these moors is on the north and west; the longer slope on the south side.

The singular valley of the Derwent, which lies east and west, separates the North York Moors from the Yorkshire Wolds. From Scarborough southwards the coast is lined by bold cliffs. Flamborough Head is the most remarkable point on this coast; but Bempton Cliff and Speeton Cliff, both of them north of it, are much higher. Bempton Cliff, which is the highest point, is 436 feet above the sea*. Speeton Cliff is the northern limit where the great chalk formation of England shows itself, which stretches with little interruption to the south-west coast at Sidmouth in Devonshire. The Yorkshire Wolds have a general west direction from Flamborough, with their steep side towards their north boundary, the Derwent valley; the western slope runs from Malton south by east, and slopes gradually to the Humber. Wilton Beacon, a trigonometrical station, on the west escarpment, about twelve miles east by north from York, is 809 feet. Hunsley Beacon, farther south, is 531 feet. The chalk tract of the York Wolds is said to have an average breadth of rather more than six miles*. The chalk accompanies the Wolds to the Humber, which it touches at Hessle. The chalk Wolds suddenly end, on the east side, in a curved line passing from Bridlington by Beverley to Hessle. All to the east of this line is called Holderness, a low but undulating tract, whose greatest elevation is in Dimlington Heights on the sea-coast: these heights are composed of gravelly clay, 146 feet above high water †. On Spurn Head, the extreme point of the low land on the north side of the Humber, there are two lights at different elevations.

Between a narrow belt of land of small elevation which lines the right bank of the Tees separating it from the head-waters of the Wisk, between the high land just described on the east, and the central mountains from Cross Fell in the north to the source of the Rother in the south, lies that extensive and diversified tract of country whose drainage is collected in the Ouse. To the point where the Aire and Ouse unite at Armin, all the streams of this region converge, commencing with the Rother in the south-west, and passing round through the north point to the Derwent in the north-east. The sources of the western streams are all in the highest lands of England, and traverse deep narrow valleys, whose boundary ridges or offsets from the central mass, run far into the level plains which characterize Yorkshire north of the Humber: the waters of the Derwent come from quite a distinct system of high lands. From York, as a centre, to the confluence of the Ouse and Trent on the south, to the High Wolds on the east (the nearest point of which is about twelve miles distant), to Wetherby, nearly as far as Knaresborough, and up to Ripon on the west and north-west, and north as far as North Allerton, we find an extensive, uninterrupted plain, the largest in all the island.

Ouse and its Affluents.

It is a well-known fact, that many of the rivers which have their origin in the central mountain-lands of England, and enter different seas, have their sources

* Mr. J. Phillips.

* Conybeare and Phillips.

† Phillips's Geology of Yorkshire. See also Ordnance Map, No. 85.

near one another, and often in the same hill or swamp. The Swale, one of the most northern branches of the Ouse, rises near Lady's Pillar; another branch rises at Shunnor Fell (2329 feet), the most conspicuous among the range of hills in which the Eden has its source. These two branches, surrounding the high mass called the Water Crag (2180 feet), run in deep and narrow valleys, of which those of Arkendale and Swaledale are the best known: the united stream (the Swale) has a general eastern course to Richmond, where its valley is still bounded by high land. Wensley Dale is not so narrow as Swaledale. A few miles below Richmond, the general course becomes south-east and south-south-east, when the river enters the great plain. A little below Morton Bridge, the Swale is joined on the west by the Bedale river; and a little below Thirsk, it is joined on the east by the Wisk, which runs nearly due south down a gentle slope, commencing at the narrow boundary before mentioned, which here skirts the right bank of the Tees.

At Topcliffe the Swale is joined on the east by the Codbeck, which comes from the north-east moors. From Topcliffe to Myton Hall, where the Swale is joined on the west bank by the Ure, its course is generally south, with some considerable windings.

The Ure rises in the same mountain with a branch of the Eden in the high moorlands; its general course is east past Hawes and Askrigg, as far as the neighbourhood of Leyburn, in a narrow valley, with some lateral vales opening into it mainly on the right bank. Below Askrigg it passes Aysgarth, and falls over a succession of limestone rocks forming the Aysgarth Force*. From the neighbourhood of Leyburn it takes an irregular south-east course, with the highest land on the right side, past Middleham and Masham to Ripon; the mountains gradually subside as we follow the course of the river, and from Ripon, where the high lands sink into the plain, there is an almost uninterrupted level all the way to York. From Ripon, the Ure takes a south, and then an irregular east course past Boroughbridge and Aldborough, to its junction with the Swale.

The Swale takes a south-east course from Myton Hall. At Linton it first takes the name of Ouse. At Benningborough Hall it is joined on the west by the Nidd, a considerable affluent, which, however, derives its waters solely from the east slope of the high moorlands; its head-waters are included between the upper streams of the Ure and Wharfe, and though it joins the Ouse, it is an inferior stream to the Ure and Wharfe. The Nidd has a general south-east course, during which it runs for nearly two miles under-ground*, past Ripley to Knaresborough, and a few miles lower, when it turns east-north-east to its junction with the Ouse. The high land sinks down into the plain a little east of Knaresborough, though the town itself stands on a moderate elevation.

The course of the Ouse for about nine miles direct distance from York (where it is joined by the Foss on the east), is about west south-west to its junction with the Wharfe on the left bank near Nun-Appleton Hall. The Wharfe, according to some accounts, rises in the same mountain as the Ribble. There are occasionally some discrepancies in the statements as to the sources of the great rivers which rise in these elevated regions; and this appears to be owing to the circumstance that they have all several sources at some small distance from one another, giving origin to small streams which unite in one main valley. It is therefore impossible to say which is the true source of these rivers. There is, in fact, a great nucleus of waterheads, lying within a circle of ten or twelve miles diameter, in which we find some of the sources of the Swale, Eden, the eastern affluents of the Lune, the Ribble, Wharfe, and Ure. If Langstrothdale be taken for the Wharfe, and Ribblehead for the Ribble, the sources of the two rivers are very different †. The Wharfe ‡, one of the most beautiful streams in the island, rises in Langstrath Dale, and has a tributary stream from Litton Dale. The hills in which the Wharfe rises are separated by a very deep valley from those in which the Swale rises§. The Wharfe has a general south-east course to near Ilkley, which is changed to an east course past Otley, as far as Wetherby, which we may consider as the termination of the high land, and the commencement of the great plain in which the Wharfe has the remainder of its course south-east past Tadcaster. The tide ascends the Wharfe as far as Tadcaster Bridge,

* Mr. Turner.

* Mr. Turner. † Mr. J. Phillips.
‡ Dr. Hunter, Whitaker's. § Mr. J. Phillips.

just above which is a weir*. From Wetherby to York, a distance of about thirteen miles, the country is nearly a dead level.

The Ouse, from the junction of the Wharfe, has a very irregular general south course to Selby; it then takes a south-east course, receiving on the right bank, at Barmby on the marsh, the Derwent from the Eastern Wolds; lower down, at Asselby island near Armin, it receives the Aire on the right bank†.

The source of the Aire is in Malham Tarn, in Craven, a fine piece of water a few miles east of Settle; it runs underground for about a mile, and issues at the base of a lofty amphitheatre of limestone rocks (286 feet high), called Malham Cove. (See the view in Dr. Whitaker's Craven.) When the Tarn is swollen by rains, the water is said to flow over the top of the cove, and to form a magnificent cataract; but, in fact, this overflow, according to the best authorities, happens very rarely. The course of the Aire is south to its intersection by the Leeds and Liverpool canal. The Aire is an important stream, and from the circumstance of this great canal being formed in its valley, we have a better acquaintance with its true character. This canal crosses a depression in the mountain mass, such as we often find when we follow the course of a river upwards into the high lands. The summit lock of the canal at Greenberfield is 411 feet 4 inches above the Aire at Leeds. Following the course of the canal down the Aire valley or Aire dale, we trace it to Skipton, where it is 272½ feet above the river at Leeds. Abundance of limestone is found near the canal both at Greenberfield and Skipton. From Skipton the river takes a south-east, and then east-south-east irregular course, past Bingley, to Leeds, where the canal terminates. The high land between the Aire and Wharfe subsides into moderate eminences in the neighbourhood of Leeds; but it may be considered as extending to the road between Leeds and Tadcaster, where it is a kind of table-land of moderate elevation, with a few higher points dispersed over it. Below Leeds, the Aire receives the Calder on the right bank at Castleford: from this point it has a general east course a little to the south, past Ferrybridge, to its junction with the Don, a few miles below Snaith: from this point its course to Armin is about north-east for about five miles direct distance. A canal, called the Aire and Calder canal, is cut from the Don, about two miles above its junction with the Aire, to Gool on the Ouse.

The Calder is an important stream from its connexion with the Rochdale canal navigation. It rises in a marsh in Cliviger Dean, south-east of Burnley, and from the same marsh rises a branch of the West Calder, which joins the Ribble.—Here we have an instance of two streams with the same name, and a common source, flowing in different directions. It runs through the romantic deep valley of Todmorden, with a general east course, to Sowerby, within two miles of Halifax, where it receives a considerable brook from Ripponden*; in many places the river, the road, and the Rochdale canal are within a few yards of one another. In its further course east, the Calder receives the Coln, that rises near Holme moss, and runs past Huddersfield. From this point its general course is east to Wakefield, and then east-north-east to Castleford. The high lands between the Aire and Calder run east of the road between Bradford and Halifax, and may be considered as occupying the greatest part of the angle between the two streams.

From the section of the inland navigation between Liverpool on the Mersey and Gool on the Ouse, it appears that the more rapid slope of the high lands is on the western side. That this must be the case, if we compare the mountain-slopes in south Lancashire and Yorkshire, is evident from the consideration of the river-valleys. All the deep valleys of middle and south Lancashire lie from north to south, with their steep escarpments following the course of the streams: the Yorkshire streams, on the opposite side, run down valleys whose general slope is to the east. (See Priestley's section.) The Rochdale canal commences in the Calder navigation at Sowerby bridge wharf, Yorkshire; after crossing the summit level it sends off a branch to Rochdale, which is on the small river Roch; the main line proceeds south to Manchester. This canal is the main link in the navigation between the eastern and western seas: vessels which navigate the tide-waters can pass all through it, and thus sail

* Mr Kenrick, York.
† Ordnance Map, No. 86.

* Mr. Turner.

between Hull and Liverpool without the expense of re-shipping their cargoes*.

The Huddersfield canal is worthy of notice from the direction which it takes across the mountains. It commences on the south of Huddersfield, runs southwest to Slaithwaite, and attains its summit level of 656 feet above the sea near Marsden: it is the highest canal in the kingdom. This summit level, which is four miles long, and lies chiefly in the great tunnel called the Marsden tunnel, runs past Standedge, into the valley of Diggle in Saddleworth, and to near Wrigley mill, where it terminates. The canal then enters the valley of the Tame, an affluent of the Mersey, and has a southern course to near Duckinfield bridge, where it joins the Manchester, Ashton-under-Lyne, and Oldham canal.

The Dun or Don rises near Saltersbrook, on the high lands called Snailsden Pike,† Windleden Moor, and Langset High Moors, near the common boundary of Cheshire, Derbyshire, and Yorkshire; it runs east past Thurlestone and Penistone, then takes a south-east course past Huthwaite and near Wharncliffe wood, where it is joined by the little Don; from this point it runs through a deep and romantic dale bordered by extensive woods to Oughtibridge, and thence to Sheffield, where it is joined by the Sheaf.

From Sheffield, the general course of the Don is N.E. to Rotherham, where it receives the Rother on the right bank, and lower down the Dearne, on the left: its course then continues past Doncaster to the neighbourhood of Thorne. The central high lands gradually subside between the Aire and Don, but they cannot be considered as terminating till we have advanced to the east of the road from Doncaster to Pontefract. On this road, the high ground commences about a mile from Doncaster, and extends to the Aire valley: the limestone is found as far east as this line ‡. From Doncaster, the Don begins to take a more northerly course, and near Thorne a course due north to its junction with the Aire, about two miles and a half below Snaith. The Went, which runs in a narrow valley past Kirk Smeaton, and joins the Don on the left bank, about two miles above its junction with the Aire, originates in the last slope of the central high lands. The cut called the Aire and Calder Canal joins, as we have stated, the Don to the port of Gool. Some rising sandy ground, bordering on the flat country to the east, is crossed in going from Doncaster to Bawtry: this rising ground here separates the Don valley from the Torn, (crossed between Doncaster and Bawtry,) which enters the Trent on the left bank at Althorpe.

The only stream of any importance which comes from the high lands on the east, is the Derwent, which rises on the moors, near the Flask Inn, about twelve miles N.W. of Scarborough, and three miles S.W. of Robin Hood's Bay *. From its source, the course is almost due south, till the river enters the valley which lies between the two masses of high land, when it takes a western course to Yeddingham Bridge, up to which place it is now navigable. Below Yeddingham, the river runs sluggishly through low marshy ground, to the junction of the Rye and Costa, from the northern slope: it then turns to a S.W. course, past New Malton, from which it has a general south course through a pleasant district, past the ruins of Kirkham Abbey to Barmby. The navigable distance from Yeddingham to Barmby is 49½ miles †. The tide ascends the Derwent as far as the lock at Sutton, about seven miles from York; the rise there is three feet at spring tides ‡.

The Ouse, which is the common receptacle of these numerous drains, joins the Trent at Faxfleet, where the whole mass of water takes the name of Humber. For a few miles above the point of junction the general courses of the Ouse and Trent are nearly at right angles to one another. In 1757 commenced the construction of the lock on the Ouse at Naburn, about four miles below York, at which a small toll is paid by each vessel. Before this lock was made, the tide flowed, according to some old authorities, four feet at Ouse Bridge, in York, said to be a distance of eighty miles from the sea, measured along the river §. But according to a map of the environs of York, by W. Palmer, 1725, which has a scale of the tides in the Ouse and its tributaries annexed, the spring tide was only two feet at York, six at the mouth of the Wharfe, and ten at that of the Derwent. We may fix the greatest rise at York, before the lock was made, at 2 or 2½ feet, on the authority of Drake's Eboracum (see

* Priestley's Canals.
† Mr. Alexander.
‡ Idem.

* Priestley
† Idem.
‡ Mr. Kenrick.
§ Priestley.

p. 282).* These facts serve to show the nature of the York plain: a very small permanent change in the relative level of the sea and land would turn the valleys of the Ouse up to York, and the Trent up to Newark, into sandy æstuaries.

The flat land which lies between the Ouse and Humber, part of which is called Walling Fen, is a well-cultivated tract, with a clayey soil, adapted for making bricks.

The only considerable stream that enters the Humber from the North Wolds is the river Hull, which runs in a south direction past Beverley to Kingston-upon-Hull.

The whole course of the Ouse, from the head-waters of the Swale to the junction of the Humber and the sea, is probably about 160 miles. The Ouse, with its affluents, forms the great drainage of Yorkshire: the area of this county is about 5733 square miles. If we make a proper deduction for the parts not drained by the Ouse and its branches, and a small addition for a part of the course of the Rother, the whole surface drained by the Ouse will probably be above 4800 square miles.

In addition to the advantages arising from extensive water-communication, the south-western part of this district contains an extensive coal-field, part of which also belongs to Derbyshire and Nottinghamshire. This coal-field is of the form of a triangle, with its apex truncated; and its broadest part is at the northern extremity: its greatest length from N. to S., between Leeds and Nottingham, is above 60 miles; and its greatest breadth from E. to W., which is in the Yorkshire portion, is about 22 miles. Like the Northumbrian coal-field, the strata of this coal-field dip to the E., and rise towards the W. and N.W.†

Trent and its Affluents.

The consideration of the course of the Trent, and its chief affluents, will give the best idea of the configuration of the surface of the part of England which is drained by it.

The Trent rises in the north extremity of Staffordshire, near Thursfield, runs south to Handford Bridge, and proceeding through the Duke of Sutherland's grounds at Trentham, is formed into a large piece of water. Like all the great rivers of northern England, it has at first a general course in the direction of the island's length. At Stone, it runs more to the east of south, turning always more and more to the east; below Rudgely, it begins to assume a tortuous general eastern course, to its junction with the Tame near Croxall, after a course of about thirty-six miles. Between Stone and Rudgely, it is joined by the Sow, on which Stafford stands. The Tame is formed by two main branches, which unite at Tamworth: the more eastern of these, called the Anker, rises in the high level a few miles north of Coventry, where the Sow, a branch of the Avon (Severn), and a branch of the Leicester Soar, also rise: the general level of this region, for a considerable extent, as indicated by the Ashby Canal, is 315 feet 6 inches. The western branch, or Tame proper, consists of several streams, the chief of which rises between Walsall and Wolverhampton, on the high land which stretches south towards Birmingham, and is a continuation of the high lands of Hagley Park, near Rudgely. The Tame runs a general southern course, along the western side of this high land, in which we find Castle Ring, 715 feet high, and Bar Beacon (six miles due north of Birmingham), 658 feet. Having approached Birmingham within about two miles, it takes a tortuous eastern course past Castle Bromwich as far as the neighbourhood of Coleshill, from which its general course is north, to Tamworth. From Tamworth it has also a general northern, but very winding, course to its junction with the Trent. The whole length of its course, to the junction with the Trent, is not less than thirty-six or thirty-eight miles; and when we consider its various tributaries, this branch is quite as important as the main stream. The Tame, which flows south towards Birmingham, and the Penk, which flows north, and joins the Sow just below Stafford, completely encircle the high land west of Lichfield. A large tract of this country, spreading west and south of Lichfield, is called Cannock Chase.

The Trent, after its junction with the Tame, has a general N. by E. direction for six miles, to Burton, where it spreads out to a great extent, forming numerous small islands. At Burton, the Trent navigation commences. From the Mease, which joins the Trent on the right bank, near the Tame, the course of the Trent is through a wide valley, in the red marl

* Mr. Kenrick.

† Conybeare and Phillips, p. 378.

stratum, which shows itself in steep banks on several parts of the river, on the right bank; in some places, as at Donnington Park, on the right bank, above the confluence of the Derwent, cliffs of red marl and freestone appear. Three miles below Burton, it is joined on the west bank by the Dove, one of its chief affluents.

The Dove[†] descends from the high regions near Buxton; it rises in a bog near Thatch Marsh Colliery, two miles S.W. of Buxton, and cuts a passage in the grit between the North and Middle Axe-edge Hills. Its general course is south, in a long narrow valley, sometimes of great beauty. The vale of Dovedale, of which the southern outlet is at Thorpe, is deep cut in the limestone, and faced by singular precipices.

The Dove then passes Ashborn and Uttoxeter, near which last town it begins to take a general easterly course, but a little south, till it joins the Trent at Newton Solney Ford. In the lower part of its course the Dove runs in the red marl. The course of this stream, in its upper valley, is exceedingly rapid, as it descends a plane of considerable inclination, bounded by high hills. The Dove is joined by the Schoo, near Ashborne.

From the confluence of the Dove, the Trent runs for about sixteen miles, by a tortuous eastern course (with a little inclination to the north), forming several small islands, to the confluence of the Derwent, on the left bank, a mile below Sawley.

The Derwent rises in the high lands near Holme Moss, east of Manchester, in a place called the Trough, and descends in a long and sometimes narrow valley, bordered in its upper part by mountains. It is the most northern of the affluents of the Trent. Its general course is from north to south, as far as Derby. About ten miles above its union with the Trent, it passes near Derby, from which point the river has a general S.E. course, very tortuous, and forming several small islands. Its lower course, like that of the Dove, is deeply cut in the red marl. The chief affluent of the Derwent, the Wye, rises in the Axe-edge hills, a few miles north of Buxton, and shows in its course past Bakewell, to its confluence with the Derwent at Great Rowsley, a series of excavations, from the lowest strata to the red marl the uppermost, over which the lower Derwent runs*.

We may form some idea of the slope of the southern valleys of the Derbyshire range from the consideration of that of the Erewash, a stream which joins the Trent on the left bank a few miles below the confluence of the Derwent. The level of the Cromford Canal (taken at a point six miles E.N.E. of Belper, on the Derwent) is 282 feet 3 inches; the canal from this point follows the valley of the Erewash nearly to Eaton Lock, a distance of 11½ miles in a direct line; the descent from the summit level to Eaton Lock is 171 feet 3 inches, or nearly fifteen feet for each mile of direct distance. The Erewash canal leads to the coal and mining districts along its course and at its northern extremity.

From the confluence of the Derwent, the Trent runs in a general N.E. direction, but with a very tortuous course, through a level country, past Nottingham on its left bank, to the neighbourhood of Newark, where it receives the Devon on the right bank. The distance along the river, from the Derwent to Newark, is about thirty-four miles; or a direct distance of about twenty-five miles. The height of the river at Newark is about forty-two feet, and at the outlet of the Derwent about 103, thus showing a fall of only sixty-one feet along a plane of twenty-five miles in length, or 2·44 feet in a mile, or about one in 2164.

The Soar joins the Trent on its right bank, only 2½ miles below the confluence of the Derwent. The main branch of the Soar rises in the same high land with the Welland (which enters the Wash); the summit-level of the Union Canal, which joins the Soar with the Welland at Market Harborough, is 381 feet 3 inches. The Soar flows north-west, and then north, to Leicester, the elevation of which is about 186 feet. Six miles north of Leicester, the Soar is joined by the Wreak, from the east: the Wreak comes from the high lands near Oakham, and passes Melton Mowbray in its course to join the Soar.

	Feet.	In.
The elevation of Oakham is .	362	1
Melton Mowbray, about . .	236	0
The Soar and Wreak, near their junction	160	0

* See Greenwood's Map of Derbyshire, London, 1825.

† Farey's Derbyshire.

* Idem.

The Soar, after receiving the Wreak, passes in a north direction near Loughborough and Kegworth, leaving on the right the high lands comprised between the Grantham and Nottingham Canal on the north, and the Wreak with its continuation the Soar, on the south and west. At the junction of the Soar and Trent, the elevation is about 95 feet 5 inches. The direct distance from Oakham to the junction of the Wreak and Soar is about fifteen miles, measured nearly due west. The difference of level is 202 feet. The distance from the summit-level of the Union Canal, near the source of the Soar, to the junction of the Soar and Trent, is twenty-six miles, direct distance, measured nearly due north: the difference of level, at the two extremities, is 288 feet 10 inches.

The Soar and Derwent join the Trent very near one another, on opposite sides of the main stream: their courses, also, are very nearly in opposite directions, being determined by the high ground which bounds the two streams for the greatest part of their course. A line of eighty miles direct distance would nearly unite the sources of the two streams, and show pretty nearly their general course. But the difference of elevation between the high lands near the two sources is probably about 1000 feet.

The Devon, or Deven, which comes from the high lands between Melton Mowbray and Nottingham, joins a branch of the Trent at Newark, and is the last stream of any magnitude which the Trent receives on its right bank, below Newark. The Trent at Newark, in fact, forms an island of about $2\frac{1}{2}$ miles in length, and $1\frac{1}{2}$ in breadth; the Devon joins the branch on the east side of the island.

From Newark, the Trent runs due north, by a course of about fifty-two miles, with some considerable windings, past Gainsborough, and joins the Ouse: the united streams enter the great estuary of the Humber, forming in the angle between them a tract of marsh land. Below Newark, the Trent valley, on the right, is one of the most singularly contracted valleys in England. Though the Lincolnshire lands are of very inconsiderable elevation, they are spread out in such a manner, from east to west, and from north to south, along the right bank of the lower Trent, as not to allow the formation of any considerable lateral streams. These high lands, which spread out between the lower Trent, Lincoln, and the sea, are a continuation of the York wolds north of the Humber, which determine the course and character of the lower Derwent (an affluent of the Ouse), just as the Lincolnshire wolds determine that of the lower Trent.

On the left bank, below Newark, the Trent receives the Idle, at Stockwith, and the Torn, at Althorpe. The Idle valley is separated from the parallel valley of the Trent by a range of land, of which the detached elevations about Epworth, north of the junction of the Idle and Trent, seem the northern termination. Crown Hill, at Crowle, near Thorne Moss, north of the junction of the Torn and Trent, is a small eminence, quite detached from any other*.

If we look to the source of the Derwent, the most northern of the affluents of the Trent, we observe that its waters take a long southern course past Derby, to join the Trent, running for a large part of their course in the mass of the central high lands of England. The course of the Trent, from the point of junction, gradually turns north, so that the upper Derwent and lower Trent are running exactly in opposite directions; and finally the waters enter the sea, after so long a southern and northern course, only a very few miles north of the Derwent sources. A similar remark applies to the Dove, and the Trent proper, both of which run in valleys parallel to the Derwent, that of the Trent being the most western. The sources of the Derwent, as we might expect from the position of the high lands, are the most northern, then those of the Dove, and next those of the Trent proper.

The whole course of the Trent, as we have estimated it, is about 144 miles. The tide ascends the Trent seven or eight miles above Gainsborough, at which town it is very visible †.

The elevation of the river at the following points will show the general nature of its slope: where we have not been able to get the exact height of the river, we have taken that of the canal close to it. This will not always be strictly exact, because the canals are often above the river; but as we have taken it, there is no great error.

	Feet.	In.
Summit-level of canal, near Burslem, Staffordshire	419	6
Below the four locks of Stone	286	0

* Ordnance Map, No. 81.
† Mr. Baker, Doncaster.

	Feet.	In.
Junction of Sow and Trent	251	9
Junction of Tame and Trent, between 187 feet 6 in. and	173	6
Junction of Derwent and Trent	103	3
Trent Bridge, near Nottingham	74	9
East Stoke, a little above Newark	*42	8

The valley of the Trent is a peculiarly interesting feature in the geography of England, from the number and varied character of the waters that belong to it, and from its being the seat of so much agricultural, mining and manufacturing industry, the products of which are transferred from one part to another by an admirable natural and artificial water communication.

The nature of the level country between the lower part of the Trent on the east, the Ouse on the north, and the Don on the west, is worth notice. The moor land near Hatfield (about seven miles N.E. of Doncaster) and about Thorne is a boggy peat, covered with heath, several feet higher than the surrounding lands, and very wet: it has been aptly compared to a sponge filled with water. The Thorne waste, with those adjoining, contains at least 7000 or 8000 acres; the Hatfield moor, about 4500. These mosses furnish a large supply of turf fuel: the ground is often so soft as not to bear a sheep, and a staff may be pushed down to the depth of twenty feet. These mosses are only passable on foot, and there is hardly a bush or tree upon them. From the junction of the Ouse and Trent with the Humber, the country is flat for several miles on each side of the Ouse, and highly cultivated. What is marked on the maps as the old Don, entering the Humber between the Trent and Ouse exactly at their junction, is a deserted bed of the Don *, and there are traces of more than one old channel about this part *.

It is difficult to ascertain the amount of surface drained by the Trent. It receives the water from all, or, in some cases, nearly all, of the following counties:—Derbyshire, Staffordshire, Leicestershire, and Nottinghamshire; and also the water from parts of Worcestershire, Rutland, and Lincolnshire. The surface thus drained is probably about 4000 square miles. This, added to the drainage of the Ouse, will give about 8860 for the two rivers; and if we add to this the streams that enter the Humber below the confluence of the Ouse and Trent, we find that this large æstuary receives the drainage of more than 9000 square miles, or between one-fifth and one-sixth of all the surface of England.

The course of the Humber, below the junction of the Trent and Ouse, is winding, and contains some extensive sandbanks. Opposite the town of Hull the Humber is about three miles wide. Opposite Spurn Head, at the outlet of the Humber, the width is about five miles. The distance from the confluence of the Ouse and Trent to Spurn Head is about thirty-nine miles.

After heavy rains the Trent is subject to great inundations: the extent to which they spread of course depends on the nature of the country near the river. In the latitude of Lincoln the inundation sometimes spreads eastward to Doddington, a distance of five miles. At spring tides there is a strong bore in the Trent: it is commonly called the Eagre: the water rises on the surface of the river to the height of six or eight feet, and rolls on in a large mass from the mouth of the Trent considerably above the bridge at Gainsborough†.

III. *The high Lands of Central and Southern England, not belonging to the Pennine Chain, and not including those West of the Valley of the Exe River.*

It is very difficult to describe with any accuracy the nature of the surface of this part of the kingdom, because it contains no great mountain-ranges, and consequently no very marked features. Weaver Hill, in lat. 53°, is 1154 feet high. Between this parallel and the southern coast of the island, and between the east coast of the island and the meridian of 2° W. of London, there appear (as far as we can learn) to be only the following elevations above 1000 feet:- Broadway Beacon, 1086 feet, E. by N. of Tewksbury; Cleeve Station, 1131 feet, near Cheltenham; and the Inkpen, 1011 feet, near Highclere, the highest chalk hill on this island. The same assertion is true, as to hills above 1000 feet, of all that part of the island to the east of a straight line drawn from Flamborough Head in Yorkshire to Lyme in Dorsetshire. If we also draw straight lines from Flamborough Head to Weaver Hill (1° 48′ W. long.), from Weaver Hill to Glou-

* Bradshaw's Map of Canals.

* Mr. Alexander See also Ordnance Map, No. 86.

† Stark's Gainsborough.

cester on the Severn, and from Gloucester to the mouth of the Exe, we only include (according to the table of Ordnance heights) one more eminence above 1000 feet: this is Dundry, near Bristol, which is 1668 feet, and higher than any elevation in the Devonshire high lands except Cawsand Beacon, 1792 feet. The drainage of the Trent river, which we have just described, partly belongs to the southern portion of the Penine chain, and partly to the high lands which belong to the division which we have made the third.

In many parts of this division the high lands are of such a character that it is not very easy to give a satisfactory description of them. Their position and extent will be, in some measure, indicated by marking, as nearly as can be done, the boundaries of the several great drainages. The first in order, as lying next to the Trent drainage, is that of the Wash, one of the most singular parts of the island. It is formed by a considerable depression, which has a general direction from north to south, and is bounded by higher land of small elevation.

Hunstanton Cliff, which forms the N.E. boundary of the Wash, shows, in its lower part, the chalk which terminates at Burgh in Lincolnshire, on the opposite side of the Wash. On this part of the coast stumps of fossil trees exist in abundance, and they appear again on the east coast of Norfolk, between Cromer and Winterton Lighthouse.

The hills that bound the Wash valley on the east are of chalk, with the rounded form and moderate elevation which characterize that formation: their more rapid slope is on the west side, and their more gradual descent is eastward to the German Ocean. From Hunstanton to Downham Market they approach close to the sea, as at Castle Rising, and to the river Ouse, as we observe at Lynn: between Downham Market and Swaffham, about twelve miles E.N.E. of it, they spread out, in the neighbourhood of Swaffham, into extensive heaths or downs. From Swaffham the general direction of the high land is south, gradually turning a little to the west, past Brandon and Thetford, between Bury St. Edmund's and Newmarket; it passes a few miles to the east of Cambridge, under the name of the Gog Magog hills, then south to Linton, where it takes a turn to the west, to Royston, a distance of about eighty miles from Hunstanton, measuring along the direction of the western escarpment. The line thus described forms the *general* boundary between the waters that run into the Wash and those which enter the German Ocean; but here, as in other portions of the chalk rocks, especially those south of the Thames, we observe, that the continuity of the mass is interrupted by depressions, forming river valleys, and receiving the drainage of parts considerably to the east of the general line of the hills. The breadth of the chalk, in the northern extremity of this range, is said to be ten miles; but it gradually decreases to five and three, and is completely interrupted at Castle Acre, 4½ miles north of Swaffham, by the small valley of the Nar or Setchy, which takes a west course, and joins the Ouse at Lynn*. The western escarpment of the chalk immediately south of this river is at Marham, seven miles west of Swaffham.

A second interruption is made by the Stoke (also an affluent of the Ouse) at Mundford, nine miles south of Swaffham: and another, four miles further south, at Brandon, by the Little Ouse, or Brandon River, which joins the Great Ouse at Brandon Creek Bridge. Here the chalk again appears north of Thetford, but the continuity of the mass is again interrupted by the Lark from Bury St. Edmund's, and its small affluents: the Lark enters the Ouse below Ely. Another interruption is made by a stream (the proper Cam) which rises near Henham on the Hill in Essex, runs past Newport, Audley End (one mile W. of Saffron Walden), Chesterford, Ickleton, Duxford, and joins the other branch on the right bank above Cambridge.

In Royston downs the high land assumes the form of hills, and runs in a general S.W. direction, under the name of the Royston downs and Dunstable downs, to Tring, from which it is known under the name of the Chiltern hills. The continuity of the range is interrupted by the Thames at Goring and Mapledurham, after a course from Royston of about sixty-five miles. The range is never completely interrupted by any river valley after that of the stream from Henham. Near Hitchin, however, there is a considerable depression, in which a

* Conybeare and W. Phillips, p. 78. Ordnance Map, No. 65.

branch of the Ouse runs, and another near Tring, indicated by the line of the Grand Junction Canal. The average breadth of the hills in the southern part of the course, is stated at fifteen or twenty miles *. In this range Kensworth, two miles to the east of the road from Ivinghoe to Dunstable, is 904 feet; and Wendover, which is S.W. of Kensworth and 22 miles due east of Oxford, is 905 feet.

The north-western escarpment is steep, as may be observed on the road from Oxford to Wycombe: the form of the hills in this part of their course is one of common occurrence. The N.W. side is an inclined plane of rapid descent; the S.E. is also an inclined plane, of so gentle a descent in its upper part as to give the impression of a high table-land, as indeed a large part of it may properly be called. From the neighbourhood of Dunstable, the range of hills which we have described penetrates southwards into the basin of the Thames, dividing the north part of this basin into two distinct systems, though the waters of the two parts ultimately descend to one common æstuary.

The whole drainage of the island, to the east of the line described between Hunstanton Cliff and Goring on the Thames, belongs entirely to one water-system, that is, to the east and south-east slope of the range just described. It consists of numerous narrow valleys, heading in the eastern side of the chalk hills, and drained by streams generally terminating in considerable æstuaries, from the outlet of the Yare of Norwich, to that of the Lee, which enters the æstuary and the deep tide water of the Thames at London. With the exception of the inconsiderable Brent, and the Coln, there is not a single affluent on the north side of the Thames and on the east side of the Chilterns, which properly belongs to the Thames as a river; and even the Coln, if the locks were removed, would probably be within the limit of the tide water. The range of hills, then, which we have described as entering the Thames valley, may be considered as the boundary between the true Thames and the great æstuary of that river.

We shall now endeavour to trace the western boundary of the Wash drainage, commencing near the outlet of the Trent.

A glance at the map will at once show that the high lands of North Lincolnshire are a continuation of the York Wolds. The high lands of Lincolnshire press close on the east bank of the Trent, from Whitton, on the south bank of the Humber, to a little south of Torksey, where the Foss Dike joins the Trent. They spread out eastward along the south side of the Humber, but are generally fringed by a belt of marsh land, growing wider as we advance towards the outlet of this great æstuary. The S.E. limit of the high lands appears to be at Burgh, about six miles E. by S. of Spilsby, in Lincolnshire, and 4½ miles from the coast: the high table-land on which Lincoln Cathedral stands may be considered as the S.W. limit. If we draw a line from Burgh, past Alford to Louth, and towards Great Grimsby near the outlet of the Humber, we observe between this line and the coast a marshy flat, varying in width from three or four to six or seven miles. Along this coast we find also a submarine forest, visible as far as the limits of low water, which in some parts are about 1½ miles. The high land within the limits marked out is not, however, all of the same elevation. The highest part commences near South Ferriby, on the Humber, (opposite to North Ferriby on the Yorkshire side,) a little to the west of Hessle Cliff, on the north side of the æstuary; its western slope, which is the steepest, runs in a S.S.E. direction, past Castor, towards Burgh, the high land narrowing in breadth as we approach Burgh. This high land slopes down slowly to the east: the north portion is particularly dry, and in some parts almost without streams, and nearly covered with gorse or furze. Yet fine springs occur even on the high heaths, which spread from Barton to Burgh, as at Binbrook, Stainton, and other places. Trees also can be raised, as we see in the woods near Brocklesby Park, on the high land to the west of Great Grimsby, and in other places.

At Barton on Humber, three miles east of South Ferriby, the chalk of the Yorkshire Wolds shows itself; its termination is at Burgh, where it sinks under the lowlands of the Wash. A lower level, but still higher than the level of the Trent, spreads out west of the higher flat just described: its western boundary commences at Winteringham, on the Humber, five miles west of South Ferriby, and runs nearly due south to Lin-

* Phillips and Conybeare, p. 79.

coln, coinciding pretty nearly with the Roman Ermine street, which for thirty-one miles forms a straight line without a single bend. Between this line and the slope on which South Ferriby and Castor lie, there is a depression, running south and north, which contains the river Ancholme and its artificial cut, which is navigable from Bishop Bridge to Ferriby Sluice on the Humber. The Ancholme receives its water both from the higher land on the east and the land on the west. A band of elevated land, running N.N.E. from Lincoln, separates the waters of the Ancholme from those which join the Witham, and enter the Wash. A third depression is formed between the high land near the Ermine street and that which borders on the Trent. The Ill, which rises at Gainsborough, within one mile of the Trent, runs in one of these valleys, and taking a southern course, joins the Witham in the low part of the city of Lincoln. The heaths which lie north and south of Lincoln, and the Wolds, are calcareous hills*.

South of the depression near Lincoln, in which the Witham runs, the high lands commence again, spreading out wider as they run south, but extending more to the west than the east. On the east side, a line drawn from Lincoln, and running about three miles east of Sleaford, through Stamford, on the Welland, may be considered the general limit of the high land which slopes to the east: all to the east of this line is an extensive flat, intersected by numerous natural and artificial watercourses. On the west side of the high lands south of Lincoln, we may trace the boundary along a slope much more rapid than that on the east side. This western side may be defined by a line drawn from Lincoln southwards, through Wellingore, to Belvoir Castle, in the beautiful vale of that name, a few miles north of the sources of the Devon, a tributary of the Trent, and six miles W. by S. of Grantham, on the Witham. All the water within these limits enters the Wash, with the exception of the Devon, which joins the Trent at Newark. The Witham, in its upper course, runs in a valley on high ground till it enters a lower level, a few miles N.W. of Grantham; it then takes a course along the *western* side of the higher land, and rounds it at Lincoln, from which it has a general southern course to the Wash.

The centre of the high lands of this part of England, and the watershed of the Trent and Wash rivers, is in the neighbourhood of Oakham. The high grounds run S.S.W. from Ranksborough Hill, three miles N. W. of Oakham, past Blackmoor Hill, and Whadborough Hill, to Illston on the Hill, and to the Saddington tunnel, which connects the navigation of the Soar of Leicester with the Welland, which flows into the Wash. The canal which passes through this tunnel is at an elevation of 348 feet 3 inches*. Saddington tunnel is sixteen miles direct distance S.W. of Oakham. A line of five miles direct distance S.S.W. from Saddington tunnel, brings us to Bosworth tunnel, at an elevation of 424 feet 3 inches, where the navigation of the Avon (an affluent of the Severn) is connected with that of the Welland and the Soar.

The line which bounds the Wash basin is not traceable in any distinct ridge from Bosworth tunnel southwards. The line of the Grand Union Canal from Bosworth tunnel to the great tunnel north of Daventry, marks pretty nearly the watershed in this part: this canal, for about ten miles direct course, is 424 feet 3 inches high, and for the remaining two miles, 370 feet 3 inches high. From the tunnel north of Daventry, the line runs south past Fawsley Park, Gretworth, Hinton in the Hedges and past the Roman camp near Cottisford Heath, to near Ardley Castle: thus being parallel to the valley of the Cherwell, one of the affluents of the Thames. From Ardley Castle the line runs south of the stream which joins the Ouse near Buckingham, and past Twyford to a point between Tring and Leighton Buzzard. The difficulty of tracing with precision the western and south-western limits of the Wash basin, arises from the absence of marked features in this part of England.

The Rivers of the Wash.

With the exception of the Lincolnshire wolds on the north, and the inconsiderable tracts of high land which penetrate into this extensive basin from the southwest and south between the river-valleys, it consists of one almost uninterrupted level, a large part of which is intersected in every direction by artificial cuts. We

* Young's Lincolnshire Survey.

* Bradshaw's Canal Map.

may place the northern limit of this fen region in the neighbourhood of Spilsby, and Bolingbroke (Lincolnshire), on the north: though, if we follow the belt of low land along the coast, it reaches, in fact, to the æstuary of the Humber, and follows its southern margin till it unites with the flats near the outlet of the Trent: its southern limit may be nearly defined by a line drawn from Huntingdon to the junction of the Cam and Ouse. The greatest length of the district will, therefore, be about fifty miles. From Lynn to Market Deeping on the Welland, a line of about thirty miles, is its greatest extent from east to west. This country is not, however, all of one uniform character, some parts being better drained than others, and entirely free from flooding; some districts are very imperfectly reclaimed, and the drainage is occasionally still effected by windmills, after the Dutch fashion. The most swampy region, and that which has caused the greatest expense in drainage, belongs to the course of the Ouse, the Nen, and the low grounds about March, Wisbeach, and Whittlesea. There is a variety of curious and undoubted evidence to show that, in the reigns of the early Norman kings, this country was well timbered and cultivated. Trees have frequently been found under the surface, with their roots firmly fixed in the soil where they originally grew; some of these trees appeared to have been sawn off, and others burnt. In 1635 some workmen, when deepening the channel of the Wisbeach river, found a second bottom, eight feet below the bottom of that time, stony and with seven boats lying on it. At Whittlesea, at the depth of eight feet under the moor, a regular soil was found, with swathes of grass on it, just as they were originally mown. Whatever injury may have been done by sudden inundations, it is certain that these immense deposits of earth have been mainly caused by the channels of the rivers becoming obstructed and the necessary outfall of water being stopped. The country has thus gradually risen above its former level, and if it had not been protected by regular embankments, and a continually improving system of drainage, the whole might, before this time, have been rendered entirely unfit for the habitation of man.

In all the fens of Lincolnshire (and probably in some parts of Norfolk, and Cambridgeshire also) there is a considerable mass of water held in the silt or sandy earth, generally a few feet below the surface: this water rises and falls according to the seasons, and being saline, is probably in a great degree composed of sea-water which filters through the silt. The provincial name for this water is *soak;* and as it rises in the sandy bed to a higher level than that of the water in the drains and ditches around, it furnishes a supply of moisture for the grain in dry seasons. In the low districts of Lincolnshire, the water is generally brackish; the water at Soham, also, near Ely in Cambridgeshire, is very bad, and it is recorded that at Tid St. Giles, in 1803, many persons and cattle died of drinking it*.

The general substratum of the fen country is a stiff clay, or gault, on which the accumulated mass of earth, vegetable matter, and water rests. Owing to the waters having lost their natural outfall, extensive meres have been formed, such as Whittlesea and Ugg meres, and Ramsay mere, north of Huntingdon, which like reservoirs hold the water that comes from the high lands and prevent the proper outfall of the streams.

The Witham rises at Market Overton, five miles N.N.E. of Oakham, on the east side of a tolerably defined ridge of which the western escarpment is drained by the Eye (in its lower course called the Wreak), running past Melton Mowbray into the Soar †. The Witham runs nearly due north, past Grantham to Barkston, a direct distance of sixteen miles: it then bends westward to Long Bennington, changing its course from the east to the west side of the land, which up to this point forms the watershed between the streams of the Trent and the Wash; and the river would now seem to be fairly within the Trent basin. From Long Bennington its course is about N.N.E., passing within 3½ miles of Newark on Trent, for eighteen miles direct distance to Lincoln; about 4½ miles before it reaches Lincoln, the Witham is joined on the right bank by the Brent, which rises near Loveden Hill, on the west side of the high land that stretches northwards to Lincoln. At Lincoln the Witham is joined by the Fossdyke, probably an old Roman cut, which commencing at

* Major Cartwright in Young's Lincolnshire Reports.

† Gooch's Cambridge Report. Ordnance Maps, No. 64.

Torksey on the Trent, 6½ miles direct distance S. of Gainsborough, has a general S.E. course through a flat country to its junction with the Witham. The Till, from near Gainsborough, joins the Fossdyke about five miles west of Lincoln. The navigation of the Fossdyke is eleven miles; the surface of its water (at the extremity nearest the Trent we presume) is four or five feet above the level of that river*.

From Lincoln the Witham runs due east for 5½ miles, and then S.E. through a low flat country past Tattershall, below which it enters the Holland fen, and then past Boston to its outlet in the Wash—a direct distance from Lincoln of about thirty-two miles, measured along the river. The country below Lincoln is intersected by a great number of canals or cuts, parallel to and at right angles to the course of the Witham, the whole navigation of which may now be considered as of an artificial character. Boats may pass from Torksey on the Trent, through the Fossdyke and Witham cuts into the Wash; and thus the great country on the Wash has a water communication with the whole basin of the Trent, with all the northern streams which enter the Humber, and even with the streams of Lancashire.

The Welland rises in the high land near Husband's Bosworth, and the Bosworth Tunnel on the Grand Union Canal. It has a general E.N.E. course past Market Harborough, Rockingham, and Harringworth, to Stamford. On the right bank it receives very few affluents, owing to the high land called Rockingham forest, which lies between the Welland and the Nen, presenting its scarped side to the bed of the Welland, and its long slope to that of the Nen. On the left bank it receives, among other affluents, the Chater, two miles above Stamford, and the Gwash or Wash, a little below that town.

Between Stamford and Market Deeping, the Welland enters the low country: from Market Deeping it has a general east course to near Crowland, from which its general course is north (leaving Deeping fen on the west) to Spalding: from Spalding its general course is N.N.E. and N.E. into the Fossdyke Wash at Fossdyke bridge, below which its channel at low water may be considered as joining that of the Witham at the Scalp. The course of the Welland below Crowland has been improved by artificial cutting and embankments, which give a more direct outfall to the water from the upper country. The Welland is joined on the left bank below Spalding by the Glen, which rises four miles S.E. of Grantham, and runs for nine miles in its upper course exactly parallel to the Witham, but in a contrary direction. The low country called Holland, which belongs in great part to the drainage of the Welland, could not exist but for its embankments, several of which are of high antiquity, and mark the progress made in the cultivation of this country during the Roman period. An old embankment extends eastward from the outlet of the Welland, called the Old Sea bank, which protects Holbeach Marsh from the sea; and another, undoubtedly a Roman bank, exists several miles farther inland, parallel to the Old Sea bank, and between it and the town of Holbeach. An old Roman bank, beginning at a point a few miles north of the Witham outlet, runs northward along what is called the coast of East Holland.

One branch of the Nen rises in the high lands near Daventry, on the east side of the watershed, from the west side of which, the Leam, a branch of the Avon (Severn) runs. The general course of the Nen is east to Northampton, where it is joined by another stream from the north. The height of the river at Northampton, where the Nen navigation commences, is 197 feet 10 inches*. From Northampton its course is first E. and then N.E. past Higham Ferrers and Thrapston, with a winding course to Oundle: particularly below Oundle, its course is exceedingly tortuous to the bridge at Wansford, on the road between Huntingdon and Stamford. From Wansford it turns to the east, and takes a very winding course through a low country to Peterborough, where it enters the fen district. The Nen receives numerous small affluents on the left bank from the high land between it and the Welland; but the high land between the Nen and the Ouse presents its steep side to the Nen, and all the drainage runs down the longer slope into the Ouse.

From Peterborough, the present course of the Nen is cut nearly straight for thirteen miles, in an E.N.E. direction; it then forms an angle, and runs

* Priestley's Canals.

* Bradshaw's Canal Maps.

straight to Wisbeach, in a N.E. direction. From Wisbeach, its course is nearly due north to Tydd St. Mary's, where it enters Key's Wash. At its outlet, the river is joined on the left bank, at South Holland sluice, by the great New South Holland drain, which commences at Cowbit Wash, on the Welland, below Crowland. Near the outlet of the Nen, on the right side, an old Roman bank exists, running down to the sea. The lower navigation of this river has been lately improved by the completion of the Nen outfall cut.

The river called the Old Nen comes from Yaxley, near Whittlesea Mere, and passes the town of Whittlesea; it is joined, above the town of March, by another stream, also called the Old Nen, which rises near the first-mentioned stream, but runs on the opposite or south side of Whittlesea Mere. The united stream runs past March, and continues, in a N.E. direction, to Outwell, from which point the Wisbeach canal runs N.W. to Wisbeach, and the Well creek S.E., to join the Bedford river at the Old Bedford sluice.

The Ouse is, in many respects, one of the most interesting rivers in England: it flows through the greatest extent of level country, and has the most tortuous course of any river in the island. One branch, which we may call the main one, rises near Gretworth, ten miles W.N.W. of Buckingham. It first runs S. and S.E. to Brackley, where it is joined by another stream, one source of which is in Whittlewood forest, north of Buckingham. The united stream runs east, with a little inclination to the south, to Buckingham, which town it nearly surrounds. The height of the canal level at Buckingham is 264 feet 11 inches. Two miles below Buckingham, the river is joined, on the right bank, by a stream, which rises a few miles west of Ardley Castle and has its source within a mile of the bed of the Cherwell, which runs due south to join the Thames.

From Buckingham the Ouse has a general N.E. course to Stony Stratford, where it is joined, on the left bank, by the Tow, or river of Towcester, some of whose head streams are within a few hundred yards of the sources of the Ouse proper. The two streams thus surround the high land of Whittlewood forest, which is crossed by the Roman Watling-street. Lower down, at Newport Pagnell, the Ouse receives, on the right bank, another affluent, which flows due north, past Leighton Buzzard and Fenny Stratford. The river then continues a very winding course, past Olney, to the N.E., where it makes an angle and takes a winding but due general south course, and then again an east course to Bedford. The direct distance from Bedford to Buckingham is considerably less than half the distance, following the course of the river. Below Bedford, the river begins to take a general north course (receiving the Ivel on the right bank), past St. Neot's to near Huntingdon, where its course becomes due east to St. Ives, and then N.E. to Earith.

From Earith an artificial cut, or rather two parallel cuts, called the Old and New Bedford rivers, run N.N.E. in nearly parallel and straight lines, twenty-two miles long, to Denver sluice, near Market Downham, in Norfolk, and thus save the great bend made by the river in its course from Earith to Ely, and also give a better outfall to the water. From Earith the old course of the Ouse is E. by S., and then N., to Ely. About four miles above Ely, the Ouse is joined, on the right bank, by the Cam, which rises in Essex, and after entering the basin of the Wash, is separated (together with its tributaries) from the Basin of the Ivel and the Ouse by some high land running north past Sutton and Gamlingay Park to St. Neot's. The general course of the Cam is N. to Cambridge, where it becomes navigable at Queen's College bridge by means of a system of locks. From Ely the general course of the Ouse is north, with some considerable bends, through the low unvarying level of the fen countries, to its junction with the artificial cut at Denver's sluice. From the sluice to Lynn, the general course is due north, past Downham Market. Three miles above Lynn, the Old Ouse formerly made a great bend, which obstructed the outfall of the water, and did great injury to the drainage of the fens and the navigation of the river. This was remedied by the straight cut called the Eau Brink cut, $2\frac{1}{2}$ miles long. Below Lynn, the river enters the Lynn West Channel, and the shallow æstuary of the Wash.

The direct distance from Buckingham to the sea, near Lynn, is about eighty miles, but the whole course of the real Ouse, from its source to the same point, is not less than 150 miles, which is more than the course of any other river in the island, if we cut off such large æstuaries

as those of the Severn, Thames, and Humber.

The elevation of Buckingham being only 264 feet 11 inches, there is probably no other part of the island so low at this distance from the sea. Along a plane of descent of eighty miles from Buckingham to Lynn, the average fall would be about 3·3 feet per mile, or 1 in 1600, which, with tolerably straight courses, and a large quantity of water, is more than sufficient. Owing to the tortuous course of the river, the fall is much below this average, particularly in the fens, but, with the straight cuts of the Bedford rivers and the Eau Brink, there is in general fall enough to clear the country during the high floods that not unfrequently occur in the basin of the Ouse. The Cam itself is sometimes flooded to a very great extent.

The Wash receives the drainage of all, or nearly all, the following counties —Cambridge, Huntingdon, Bedford, Northampton: and besides, at least two-thirds of Lincolnshire, with parts of Bucks, Rutland, Norfolk, Suffolk, and a small part of Essex—in all, about 5000 square miles, or perhaps more; for in a calculation of this kind an exact result is not attainable.

On Boston deeps, in the Wash, the rise of tide at springs is 23, and at neaps 14 feet.

Norfolk, Suffolk, and Essex, &c.

The chief part of the counties of Norfolk and Suffolk, with Essex, Hertfordfordshire, Middlesex, and part of Buckinghamshire, lie to the east of the high land which runs from Hunstanton to the Thames at Goring: the Thames forms the southern boundary of this part of the island, which contains about 5000 square miles, and is not characterized by any great irregularities of surface or any large rivers.

From the steep cliff of Hunstanton, (about 120 feet in the highest part,) on the borders of the Wash, the coast of Norfolk runs nearly due east, as far as Cromer, presenting, in some places, tolerably high land near the sea. From Brancaster to Burnham, the chalk continues at no great elevation; between the chalk and the sea is an irregular range of sandhills, stretching at least as far as Wells*. Cromer Light-house cliff is 250 feet high: between Cromer and Mundesley the chalk appears on the coast. From this point the coast makes a round unbroken sweep to Lowestoff, the most easterly point of the island. The high cliffs east and west of Cromer sometimes suffer from the action of the waves, and also from avalanches, or "shoots," as they are provincially termed, which throw down large masses of the sand and clay of which the cliffs are composed. In this cliff, for a space of twenty miles, from a point west of Cromer to a point near Happisburgh, trunks of trees, firmly rooted in their original soil, but broken off about a foot and a half from the base, have been observed*. A similar phenomenon occurs at Thornham and Brancaster, near Hunstanton, where the trunks are taken out of the mud at low water, and used for gate-posts, &c: but the same woody stratum does not appear to be yet identified in any interior part of the country †.

The outcrop of the chalk-hills forms the eastern boundary of the great level of the Fens, and the steepest side, though now much worn down, is also towards the same great level ‡. We have already remarked that here, as in the chalk rocks of South England, the watershed is not determined by the original scarped side of the hills, but the hills are broken into detached masses, separated by depressions, through which the water flows from the east side into the fen level. A line drawn from Brancaster, in the N. W. part of Norfolk, to Lopham, (1° E. long.) on the south frontier of the county, marks pretty nearly the watershed between the fens and the county of Norfolk, though it runs so far to the east of the outcrop of the chalk. The part east of this line is a gently-undulating surface, whose drainage lies between the line just described and the long sweep of coast between Blakeney and Yarmouth: the elevation of this part of the coast admits of no water-courses to the sea, except a few inconsiderable streams, and the whole drainage of a district about forty-five miles long, and above twenty in average breadth, enters the sea at Yarmouth. The streams of Norfolk belong entirely to this county, and will be described in their proper place. We may remark, that the high

* Mr. Barwell, Norwich.

* Richard Taylor. Geolog. Transact. vol. ii. second series.

† Mr Barwell.

‡ Woodward's Geology of Norfolk.

ground about Norwich is a substratum of chalk, containing enormous flints, covered, on the east side of that city, with about thirty feet of tertiary sand, and about ten feet of diluvium *. The principal part of Norfolk and Suffolk is covered by alluvial beds.

South of Lowestoff, or Lowestoft, the sea encroaches on this coast, which, at several points, is of some elevation: it is high from Lowestoff nearly to Covehithe Ness, where it rises again. It is high at Easton cliff, and Southwold adjoining; and also farther south, at Dunwich, where the sea encroaches. Between Yarmouth and the outlet of the Alde, a distance of thirty miles, no stream of any importance enters the sea, the coast being generally high, and corresponding to an elevation in the interior, which separates the Norfolk drainage from that to the south of it.

The remaining part of this coast, to the æstuary of the Thames, is characterized by æstuaries of considerable extent, compared with the rivers which flow into them: the Alde, where a gravelly beach appears to have been formed from the rubbish of the broken coast to the north; the æstuary of the Deben; and the double æstuary of the Orwell and Stour. The high land which runs down towards the coast between the river valleys, approaches the sea in several places, as, for instance, near Orford, and at Bowdsey, near the mouth of the Deben, where the chalk appears. The sea encroaches about the Naze, south of Harwich.

The æstuary of the Colne, of Colchester, and the wider æstuary of the Blackwater, break the coast of Essex: indeed, from the Alde southward, the coast changes its character, being marked by æstuaries, increasing in magnitude till we come to the Thames. The sea encroaches on the Essex coast, between the Blackwater and the Crouch. A range of high land runs S.W. from the neighbourhood of Colchester, between Chelmsford and Maldon, then west, past Brentwood, to Hainault forest, and to Epping forest, which lies between the valleys of the Roding and the Lea: the high land of Highgate and Hampstead, north of London, would appear to belong to it. This high land, from Danbury, near Maldon, to Chigwell, on the Roding, forms a subsidiary range, parallel to the larger western chalk range of Royston; and it is also a watershed. The chalk of this subsidiary range shows itself at, Purfleet, on the Thames, nearly opposite to the chalk of Kent, near Gravesend. Langdon hill, S.E. of Brentwood, is 620 feet: High Beach, on Epping forest, is 750 feet. We have considered the Lea, which enters the Thames just below the East India Docks †, as strictly belonging to the æstuary of the Thames, and the rivers of the eastern slope of the chalk hills. This will appear to be the case, if we trace it from one of its sources within three miles of Royston, and along another branch, the Stort, which interlocks its streams with the main branch of the Cam that rises on the east side of the chalk range, and passes Audley End.

The Lea has a general southern course of about forty-five miles, measured along the stream, and is perhaps not inferior in volume of water to any *single* stream that enters the sea between Hunstanton and this place ‡.

It will give a more exact idea of the conformation of a considerable portion of this part of the island which we are now considering, if we mark the heights, above one given level, of the chief streams, and of the high lands traversed by a line laid out for the London and Birmingham rail-road §.

The level commences at London, with the level of the towing-path of the Regent's canal, on the north side of London, which is placed at 108 feet 9 inches above an imaginary line used as a base to reckon from: the high water of the Thames is 21 feet above the same line.

Places.	Distance from London. Miles.	Height. Feet.	In.
River Brent	6 nearly	87	6
Across Oxhey lane	13	290	6

This is the highest point crossed between the Brent and the Colne, both affluents of the Thames.

* Idem. See also R. Taylor of Norwich, Geol. Trans., vol. ii. pt. I. second series, p. 375.

† There is a cut from Bromley, on the Lea, to Limehouse.

‡ See Ordnance Maps, I. 47.

§ The railway, of course, does not cross all the high lands in this line; but it is taken through some of the highest parts by tunnels, of which eleven are marked in the plans: some are for very short distances. Whatever deviations may be made in the execution of this work, from the line laid down in the plans, will not affect the purpose for which they are here used.

Places.	Distance from London. Miles.	Height. Feet	In.
River Colne	15¾	189	3
Near the lane to Leavesden	18	345	0
Across Grand Junction Canal	21 + a little	249	0
Across ditto	24	297	10

Here the road cuts the canal twice, first before reaching the neighbourhood of Hemel Hempstead, and again before reaching the vicinity of Berkhampstead.

Across the road from Northchurch to Ashridge	27¾	442	5
Across the road from Tring to Dunstable	31¾	446	2

These two last positions (Tring and Dunstable) are on the chalk range, which here runs in a N.E. direction.

Across Grand Junction Canal	33¼	317	9
Across road from Leighton Buzzard to Buckingham	39	326	4

At 39½ miles, an elevation of 391 feet is marked, through which a tunnel is to be cut.

Across Grand Junction Canal, near Stony Stratford	51 + a little	247	9
Across Ouse and Tow	51½	212	10

It appears that the Grand Junction is here 35 feet above the level of the Ouse.

Across Grand Junction between Towcester and Northampton	61	308	0
Road from Dunchurch to Old Stratford	66¾	416	4

This point is near Weedon barracks.

Across Grand Junction Canal	72¼	311	6
Across Grand Union Canal	74$\frac{1}{10}$	370	4
A cross-road from Watford to Kilsby	76⅓	516	4

This is the highest point on the whole route, and belongs to the high ground which separates the waters of the Avon (Severn) from those of the Ouse and Nen: it is also near the head waters of one of the branches of the Nen.

Oxford Canal	79 nearly	331	4
Avon Brook	80½ nearly	305	6
River Avon	87¼	242	6

The river Avon is crossed twice, within one furlong.

Sow, branch of the Avon (Severn)	90¾	224	8
Across the road from Coventry to Warwick	93 nearly	329	4
Across the road from Kenilworth to Berkswell (near this point)	97½ nearly	432	1
River Blythe (an affluent of the Tame, branch of the Trent)	100¾	297	0
River Reay, near Birmingham	110¾	330	1
Birmingham, Nova Scotia Gardens	111	391	8

The direct distance from London to Birmingham is about 100 miles, and consequently the line of the rail-road, being only 111, exhibits pretty fairly the character of the variable surface between these two points. The line passes from the level at London, over the north boundary of the lower Thames valley, into the upper valleys of the Ouse and Nen, which flow into the Wash; it then passes into the highest valley of the Avon, which flows into the Severn, and thence into the Bristol channel; and next it passes into the remotest S.W. valley of the Trent, of which the Blyth, and the Reay of Birmingham are small affluents, whose waters ultimately reach the sea by the Humber. Thus an elevation of the sea to the height of 330 feet would fill the valley of the Trent up to Birmingham, and would convert this as well as the whole valley of the Ouse, and that of the Avon, into great æstuaries.

We have already shown the general nature of the country along a line drawn from London to Birmingham; we shall now show the nature of the country traversed by a line following the direction of the intended Grand Junction rail-way from Warrington on the Mersey, to Birmingham. This country is of a very different character, consisting for the most part of the great Cheshire

plain, and a higher level from Whitmore Heath to Birmingham. The Grand Junction rail-way is intended to commence at Warrington. Its general direction may be described as leaving on the *left* hand (in going from Warrington to Birmingham) the towns of Northwich, Middlewich, Newcastle-under-Lyne, Stone on the Trent, Stafford, Penkridge and Walsall; and on the right hand, Frodsham, Tarporley, Nantwich, Eccleshall, Wolverhampton, and Wednesbury. The length of the rail-way line between Warrington and Birmingham is 73½ miles; the direct distance measured on the map containing the line of the road is about 67½ miles.

Places.	Distance from Warrington. Miles.		Heights. Feet.	In.
River Mersey	1		28	5
River Weaver, falls into the æstuary of the Mersey	8		35	3
River Weaver again	13½		about 56	0
Middlewich and Wardle Canal	about 17	5½ furlongs	about 153	0
Across road from Sandbach to Nantwich	24		191	2

The Weaver at both points of crossing runs through a flat country, and in a deep, narrow valley, at the first crossing about two furlongs, and at the second about 1½ wide, and from sixty to seventy feet below the general level of the flat country on each side. From the level of the Mersey to the last-mentioned station, a distance of about twenty-four miles, the rise is very gradual, and very regular, particularly from the first crossing of the Weaver. The country, in fact, is a plane surface, with a very small inclination to the æstuary of the Mersey.

Places	Miles.	Feet.	In.
Across road from Drayton to Newcastle, over Whitmore Heath	34½	405	10

During these 10½ miles the ascent becomes more rapid, being about treble the amount of that in the preceding ten miles. The high land crossed by the line of road between Newcastle and Drayton is part of the watershed between the Weaver (Mersey) and the Sow (Trent). The Tern, which joins the Severn a few miles below Shrewsbury, draws a part of its waters from this high land. A point may be taken on this elevated district which is not more than 1½ mile from the Weaver, the Tern, and the Sow, whose waters respectively enter the æstuary of the Mersey, that of the Severn, and that of the Humber. A pond near Madely, which may be considered as one of the sources of the Weaver, and Madely Moss itself, are about 366 feet high. The high land running N.E. of Madely past Audlem and Talk on the Hill contains beds of coal*.

From Whitmore Heath, the line crosses the Sow and the Penk, an affluent of the Sow; and as it crosses no streams between Whitmore Heath and Birmingham, except those which belong to the Trent basin, and as all of these are remote affluents of the Trent, it follows that the general level of the country between Whitmore Heath and Birmingham, along the line of road described, is of a considerable elevation; it may be stated as being above 300 feet. The highest point crossed is the Wyrley and Essington canal*, (484 feet 3 inches) near Wolverhampton. Level at Birmingham is 371 feet 5 inches.

The line of internal navigation from the Mersey at Liverpool, past Birmingham, to the Thames at Limehouse, below London Bridge, is about 262 miles. This canal, in its progress from Liverpool, after having passed Middlewich, and attained the southern extremity of the Cheshire plain, rises to the height of 200 feet above low water at Liverpool. As far as a point between Hemel Hempstead and Rickmansworth, a distance of about 180 miles, it never sinks below the height of 200 feet, except at the aqueduct over the Avon river, and here the fall below this level is inconsiderable. After leaving the chalk heights near Tring, it sinks to the level of 200 feet between Hemel Hempstead and Rickmansworth, as just stated, and gradually descends along this slope to the level of the Thames at Limehouse.

The Thames.

The chief drainage of the Thames lies across the island, and its general

* See Ordnance Map, No. 73.

* The highest level of this canal is 548 feet 9 inches; it runs from Wolverhampton to the coal districts, N.E.

slope is from west to east. Like all river-systems formed of a great number of branches, the space drained does not consist of one valley but of many, all of which open into the largest valley, or the common recipient of their waters. The various subordinate drainages are separated from one another by intervening higher lands, which sometimes are offsets branching out from the exterior margin of the basin, and penetrating far into the general level of the drainage. It is not a physical truth that the entire drainage of a river-system is always contained within a well-defined and continuous watershed; such boundary line may often be traced for some extent, but is often interrupted: nor is it true that the high lands which stand within such exterior margin or watershed are always offsets from the exterior margin or general water shed. The chalk hills of Kent and Surrey, which form the southern margin of the London clay basin, are entirely within the exterior margin of the Thames drainage.

It has been already observed that the Thames is divided into two parts on the north side, by the chalk range which runs from Hunstanton to the Thames. It is similarly divided on the south side by the high lands, which, under the name of Bagshot Heath, abut on the Thames between Windsor and Staines. We shall endeavour to trace the limits of the upper basin thus formed.

The sources of the Avon (Severn), Soar (Leicester), Welland, and of a branch of the Nen, are all in the same high tract. From Bosworth Tunnel before mentioned, a line drawn about S.S.W. to Fenny Compton Tunnel, which is at an elevation of 389 feet, 10 inches, will bring us along a high tract to near the source of the Cherwell, the most northern affluent of the Thames. The Oxford canal passes through Fenny Compton Tunnel, and here connects the navigation of the Cherwell with that of the Warwick and Napton canal. The drainage to the west of the line described belongs to the basin of the Avon.

A line of about twenty-five miles from Fenny Compton, past Edge Hill and Epwell Hill (836 feet), to Stow on the Wolds (883 feet), will show tolerably correctly the boundary between the affluents of the Thames and the Stour, a branch of the Avon. Stow on the Wolds belongs to the high land several miles to the west, which is the true boundary between the Avon and the Thames basins, but is interrupted by the Stour, which traverses the main mass like the rivers from Norfolk, which flow into the fen district of the Wash. But from the place where the Stour interrupts the high land, we find a continuous tract stretching S.W. and spreading out for many miles east and west between Stow and Broadway Beacon: the scarped side of this range, part of which includes the oolitic range of the Cotswold hills, is to the west. The high land runs past Chipping Camden, Broadway Beacon (1086 feet), Winchcomb and Cleeve Station (1134 feet) to Cheltenham, which lies in a beautiful valley formed into a kind of amphitheatre by the western side of the hills. From Cheltenham the line runs across the Roman Ermine-street to the tunnel, through which the Thames and Severn canal passes; it then runs south, crossing the Roman Acman-street, to the source of the Swill (Thames) north of Malmesbury; from Malmesbury it runs east (a little south) to Swindon, bordering close on the high chalk tract of Aldbourn chase and the Marlborough downs.

The high land, which incloses the source of the Kennet about four miles N.W. of the great Druidical mound called Silbury hill, makes the bed of the Kennet quite distinct from that of the northern streams of the Thames. The Kennet rises in the lower strata, and hence enters the chalk. The elevated region between the Thames proper and the Kennet runs eastward from near the sources of the Kennet, spreading wider N. and S., under the name of Marlborough Downs, Aldbourn Chase, Lambourn Downs, and continues eastward to the neighbourhood of Reading. The Kennet valley separates the Marlborough Downs on the north from the high lands which form the southern boundary of the Kennet valley. This southern boundary of the Kennet valley runs eastward from Morgan's hill, about four miles N.N.E. of Devizes (where the Roman road from Bath to Marlborough meets the Wans Dyke), along the high land which separates the Avon of Salisbury from the Kennet. The watershed then runs irregularly eastward, past Botley Hill and Kingsclere to Basingstoke, where a high tract of land, part of which is called Bagshot Heath, runs northward to the border of the Thames at Windsor,

and partly fills up the great bend between Maidenhead and Henley. This high tract corresponds to that on the north side of the river, and with it completes the circuit of the upper basin of the Thames. The rivers which enter the Thames on the south, below Windsor, belong to the lower Thames basin.

The Thames has various sources. One is placed (Ordnance Map, No. 34) about 5½ miles east of Malmesbury, near Raven's Roost Wood. The Swill brook, perhaps the chief source, rises 3¾ miles N. by E. of Malmesbury, at West Crudwell: the junction of the Swill and the other stream, at a point three miles west of Cricklade, forms the Thames. Another source is at Thames Head, near the road from Cirencester to Tetbury, in Gloucestershire. At Latton near Cricklade, the chief stream is joined by the Churn, which rises within three miles of Cheltenham, on the east side of the hills, and passes Cirencester.

Distances along the Thames.

Miles.

From West Crudwell to Cricklade 10½

One mile above Cricklade, the river is crossed by the North Wilts Canal.

To Lechlade, where it becomes navigable, and is joined by the Thames and Severn Canal . 9¼

Affluents on left bank, Coln; right bank, Cole.

To Appleton Wear, where the river turns due north . . . 15

From the confluence of the Cole, the right bank is bounded close by the high lands running eastward; on the left the land is lower, and the river forms several large islands. The Windrush enters on the left bank.

To Abingdon, past Oxford . 21

The direct distance from Appleton Wear to Abingdon is only 5½ miles; this long bend is caused by the river turning the high grounds which run east from Faringdon, and form in this great elbow of the river, Cothill Moor, Bagley Wood, Cumner Hurst, Witham Wood, &c. Above and below Oxford, the river forms various islands. Affluents on the left bank, Evenlode and Cherwell; the Cherwell flows with a tortuous course due south, from a point a few miles north of Banbury, in Oxfordshire. On the right bank, the Ock joins the Thames at Abingdon; and also the Berks and Wilts Canal.

To Reading, by a winding course, for the most part south . . 31

Affluents on left bank, Thame; on the right, Kennet, at the junction of which with the Thames Reading stands.

To Windsor, by an irregular course, varying from north to east, and again south, past Henley, Great Marlow, Maidenhead . 28

The direct distance from Reading to Windsor is about 15¼ miles.

Between Henley and Windsor there are numerous islands in the river. The high lands connected with those of Bagshot Heath run up to the N.W., forming the bend at Remenham; and past Maidenhead to the N., forming the angle at Little Marlow: they also run up to Windsor, forming the bold eminence on which Windsor Castle stands.

Affluents on the right, the Loddon, at Shiplake.

To London-bridge, past Staines, Hampton Court, Kingston, Brentford 45

From Windsor to London, the country on the left bank is low and flat; on the right, Cooper's Hill, above Egham, marks one point of the termination of the high lands of Bagshot. The high lands of Banstead Downs approach close to the Thames at Richmond Hill.

Affluents on the left bank, Coln, Brent: on the right, Wey, Mole, Hogsmill, Wandle.

To Gravesend and Tilbury Fort 25

Below London, the country on each side is flat and marshy, but more so on the left than the right bank. From Blackheath, high land stretches along the river to Gravesend, but leaves a marshy level between it and the river, varying from 1½ miles in breadth to a narrow strip.

Affluents on the left, Lea at East India Docks, Roding, Bourne, Ingerbourn; on right, Ravensbourn at Deptford, Darent.

To a line joining Shoebury Ness in Essex with Sheerness, on the right bank 19

The distance from Shoebury Ness to Sheerness is 5 miles 3 furlongs.

The total will thus be 204½ miles, measured along the course of the river on the Ordnance maps.

On the left bank the river is bordered by low marshes, about two miles wide in their greatest extent, and backed by rising ground, which in some places, as at Purfleet and East Tilbury, comes up to the river. On the right bank, extensive marshes border the river, to the junction of the Medway on the south or right bank, terminating in what is called the Isle of Grain.

The navigation of the Thames is given as follows by Priestley, beginning at London:—

	Miles.		Miles.
To Staines	$37\frac{1}{2}$	To Reading	9
Windsor	8	Wallingford	18
Maidenhead	7	Abingdon	14
Marlow	8	Oxford	8
Henley	9	Lechlade	28

According to this authority, the navigation between London and Lechlade is $146\frac{1}{2}$ miles.

The section of the line of navigation* from the Avon (at Bristol) by Devizes, to the Thames at London, shows that the western slope, from the summit level near Devizes, is very short and rapid as far as Bath. This canal, called the Kennet and Avon, is carried from Devizes along the upper valleys of the Avon of Salisbury, and crosses the watershed by Great and Little Bedwin, into the basin of the Thames, which river it joins at Reading. At Devizes this canal attains an elevation of near 450 feet above the Severn at low water; but the highest point is at Crofton tunnel (which tunnel is 510 yards long), a few miles before the canal reaches Little Bedwin. The elevation at Reading is only about 135 feet above low-water mark at London Bridge. The whole line of this navigation is 178 miles from the mouth of the Avon to London Bridge.

The summit level of the Thames and Severn canal, at Sapperton tunnel, is 376 feet 3 inches: this canal, in a direct distance of thirteen miles to the Severn, falls 351 feet 9 inches; in a direct distance of eighty-seven miles to London, the joint fall of the canal and the river is probably about the same quantity. The total fall from Lechlade to low-water mark at London, is stated at 258 feet. (Priestley's Canals.) Since the Thames and Severn Canal was made, the navigation of the Thames between Cricklade and Lechlade is disused.

The Thames is occasionally flooded, after long or heavy rains, at which time the collected waters of the main stream, and of the Cherwell, Thame, Kennet, and other tributaries, flow in one channel past Windsor. Owing to this cause, the low lands on the banks of this river are sometimes covered with water to a considerable extent. But the Thames, in its medium state, does not contain much water; and if we cut off its extensive tide channel, which extends above Richmond, it would be reduced to an insignificant stream, with a much less volume of water than the Spey and the Tay, of Scotland. At present, it is made navigable from Lechlade by a series of locks, of which the first, as we ascend from London, is at Teddington, $18\frac{1}{2}$ miles by the course of the river from London-bridge, or $11\frac{1}{2}$ miles direct distance. But even with these locks, the navigation in summer is sometimes impeded, or altogether stopped for want of water. If we consider the tide channel of the Thames to extend no farther than Teddington, its length, measured from the Nore, is about sixty miles.

The surface drained by the Upper Thames comprehends parts or the whole of the following counties:—Oxford, Gloucester, Wilts, Berks, Bucks, and a small part of Hampshire. The area of the surface drained is about 2500 square miles.

We have observed that the Lower Thames basin is defined on the N. side by the range of chalk hills; on the south it is not so accurately defined. Its chief tributary streams come from the same general level as those which flow south into the English Channel.

The Wey, or Wye, rises in the chalk hills near Alton in Hampshire, near the sources of the Rother, a branch of the Arun. It runs in a N.E. course to Farnham, and then turns S. to Telford Bridge, where it is joined by another stream, also coming from the neighbourhood of Alton. It then runs east, with a winding course to Godalming: in this part of its course it furnishes excellent water for the paper mills on its banks. From Godalming it runs a little east, and then north, through the depression in the chalk range at Guildford. One mile and a half above Guildford, it is joined on the right bank by a stream, which is connected by the Surrey and Sussex canal with the Arun, which runs past Arundel. From Guildford the Wye takes a winding general N.N.E. course, and then N. to Ham Haw Common,

* See Priestley's Canals.

where it receives the Basingstoke canal: it enters the Thames between Chertsey and Walton on Thames: its whole course is about forty miles.

The remotest source of the Mole is in Tilgate forest, where the Arun also rises The Mole is formed by a very large number of small streams: it then runs north to within a few miles of Reigate, then west to near Dorking, where it takes a north course through a depression in the high land and runs past Mickleham: it then turns N.W. to Cobham, from which, by a winding N.N.E. course, it enters the Thames, in the level land at East Moulsey, opposite Hampton Court.

The Medway discharges into the same æstuary with the Thames: but it is quite a distinct river. The source of the Eden, one of the main branches, is in Surrey, about six miles W. by S. from Westerham, and may be placed in the streams and pools about Godstone: or perhaps the chief head is about Titsey, 2½ miles W. by N. from Westerham, on the southern slope of the high lands. From Titsey, the Eden runs south, and then east, past Edenbridge, and joins the Medway. One branch of the Medway rises in the high land two miles south of Tunbridge Wells: another branch rises about East Grinstead: the two united take a general N.N.E. course to Penshurst, from which the united stream (Eden and Medway) runs in a general east direction, past Tunbridge to Twyford Bridge, where it is joined on the right by the Teise, which also comes from the high land about Tunbridge Wells. At Yalding, half a mile lower down, it is joined by the Beult, on the right bank: the Beult comes from Shadoxhurst, in Kent, 4½ miles S.W. of Ashford on the Stour. From Yalding the Medway runs to Maidstone, by a N.W. and then N.E. course. From Maidstone the river has a general north and winding course to Rochester, through a pleasant and fertile valley, famed for its hop plantations. Above Rochester, the high lands approach each bank of the river: they form a kind of amphitheatre about Chatham and Rochester, on the east side, and also on the west, closing on the river at Upnor Castle. At Rochester Bridge, the Medway is a large tide river. The rise is eighteen feet at spring and twelve at neap tides at Chatham*. Below Chatham dockyards the high lands decline, first on the right and then on the left bank, forming a flat, marshy, and unwholesome country, to the spacious outlet of the Medway at Sheerness. The Isle of Sheppy forms one side of the western channel of the Medway: the other channel, which runs between the island and the main land, is the comparatively narrow outlet of the Swale. Some tolerably high cliffs, in a state of constant decay, form the northern shore of the Isle of Sheppey, from which there is a slope southwards to the Swale; the high lands about Rochester slope down northwards to the same level which contains the channel of the Swale. The length of the Medway, from the point south of Tunbridge Wells, to Rochester Bridge, is from forty-two to forty-five miles. (Ordnance Map, No. 6.) The Medway is now made navigable above Tunbridge as far as Penshurst bridge. (Priestley's Canals, p. 756.)

"The country forming the southern part of the Lower Thames basin comprises nearly the whole of Surrey, at least two-thirds of Kent, with a small part of Hampshire and Sussex: this area is probably about 1800 square miles. The country forming the northern part of the Lower Thames basin comprises Middlesex, nearly all Herts, with parts of Bucks and Essex, making in all an area of about 1200 square miles. The whole area of the Lower Thames basin will accordingly be about 3000 square miles, which, added to 2500 square miles, the area of the upper basin, will make a total of 5500 square miles. Thus the æstuary of the Thames receives the drainage of a surface not quite two-thirds of that whose drainage runs to the Humber.

Kent and Sussex Hills.

The description of the high lands of Kent and Sussex is difficult on account of the form which the chalk elevations of these counties assume: they do not make continuous ridges, but extensive elevated and rounded surfaces, the general characteristics of the chalk, with one side rather steep. From the neighbourhood of Walmer Castle to Dover, and from Dover to East Wear Bay, a distance of about thirteen miles, the coast of Kent is fronted with high chalk cliffs: the highest points on the coast are on each side of the town of Dover, which lies in a short and narrow valley or de-

* Capt. Burton, Chatham.

pression in the chalk. The height of Dover Castle hill is 469 feet. On both sides of this valley the chalk hills rise to several hundred feet, spreading out to the N.W. into the interior, but sloping down gradually in a N.E. direction towards Sandwich and Pegwell Bay, and more rapidly in the opposite or S.W. direction. The breadth of the high lands of this part of Kent is indicated by the length of the cliff coast. From Dover the high land runs N.W. till it is interrupted by the Stour valley, which completely separates the high land to the east and west of it. A tributary to the Stour rises near the edge of the south-west slope five miles west of East Wear Bay, and runs northward across the country down the long slope to join the Stour at Stourmouth. The chief branch of the Stour rises within 1½ miles of the branch just described, but as its source is *on* the south slope, it makes the circuit of Ashford, Wye, and Canterbury, before it meets the inferior branch at Stourmouth. Paddlesworth, which is near the edge of the S.W. slope, and 4½ miles N.N.W. of Wear Bay, is 642 feet high.

The high chalk land of the Isle of Thanet is also detached from the rest of Kent by the two valleys of the Stour, which open respectively into Pegwell Bay and the æstuary of the Thames. In the Roman period, and indeed within comparatively recent times, it is said that there was an open and navigable channel from Pegwell Bay into the æstuary of the Thames at the Reculvers.

From the neighbourhood of Wye on the Stour, the S.W. boundary of the high land, which is the steep slope, is continued in the same direction past the village of Charing, where the south slope is very abrupt, and past Lenham and Hollingbourn to the neighbourhood of Maidstone. Hollingbourn station is 616 feet. The Medway, which flows by Maidstone to Rochester, completely cuts off the high lands just described from those to the west of the river valley. A few miles north of Maidstone, the mountain slope turns almost due north, runs along the east bank of the Medway, and forms a kind of amphitheatre about Rochester and Chatham. The country between the lower Medway and the Stour at Canterbury, is a high region with an undulating surface, sometimes spreading out into extensive flats, as on the road from Canterbury to Charing, before we descend the slope leading to the latter town. But its long slope is from S.W. to N.E.: it is a district without water-courses; during the first eighteen miles from Rochester to Canterbury not a single stream is crossed. The district immediately north of the Stour, in its course below Canterbury, and separated from the Isle of Thanet by the old channel of the Stour leading to the Reculvers, consists of gently rounded hills: the coast also is steep from the Reculvers westward, with some interruptions nearly as far as Whitstable at the outlet of the East Swale. But west of this point the high country between Canterbury and Rochester gradually declines northwards to the low marsh lands.

The high lands which were interrupted by the Medway continue westward, with their steep side to the south, and the long gradual descent turned to the Thames: Wrotham Hill is one of the highest points on this southern boundary. The next interruption is occasioned by the narrow valley of the Darent, which rises in a more southern range, connected by a small and lower tract with the high land near Wrotham. No stream is crossed between Maidstone and Farningham on the Darent. From the little town of Otford on the Darent, the southern boundary of the hills takes a general W.S.W. course past Botley Hill (880 feet), and then a western course immediately north of Reigate to Box Hill near Dorking. Before reaching Dorking there is a kind of depression in the hills through which the Brighton road passes. At Dorking the continuity of the high land is interrupted by another river, the Mole, which from this point has a general northern and very tortuous course to the Thames opposite Hampton Court. The district between the Mole, the Thames, and the south slope, contains a great variety of undulating surface, round hills, and elevated downs, such as Banstead Downs and Epsom Common, which spread out west of Croydon. Banstead Station is 576 feet. The long slope still runs down to the Thames: but this detached mass of high land, unlike those east of it where the chalk occupies all the surface, is cut into smaller pieces by little streams whose whole course is contained within the detached mass: such are the Cray, the Ravensbourn, and the Wandle. From Dorking the boundary slope runs due west to Guildford on the Wey, a river which has a very

tortuous course to the Thames at Chertsey; the Mole and the Wey contain between them Cobham Common and St. George's Hill. South of the line between Dorking and Guildford, and partially separated from it by a slight depression, are the parallel heights of Hurtwood Common and Leith Hill Common, which do not belong to the chalk formation. Leith Hill is 993 feet.

From Guildford the high land runs due west under the name of the Hog's Back to the Blackwater, forming an insulated ridge 6½ miles long with a narrow crest. Along the east side of the Blackwater, the high land extends northward under the name of Chobham Ridge, and then spreads out in the extensive elevated tract of East Hampstead Plain and Bagshot Heath.

The high land of Bagshot Heath, as already described, abuts on the Thames at Windsor, and fills the angle between Maidenhead and Henley, completely separating the Thames basin into two parts. But this high land is not the same formation as that which abuts on the north side of the river. It consists of a flinty gravel mixed with loose sand or loam, which is observed in travelling from London by Bagshot and Farnham to Southampton: it extends on this road as far as New Alresford, seven miles E.N.E. of Winchester, where the chalk appears. The highest point of Bagshot Heath is 463 feet.

The total length of the high lands described as extending from Dover to the Thames at Windsor is about 100 miles.

South Downs, &c.

The high chalk cliffs of Beachy Head may be regarded as the commencement of a series of high rounded downs called the South Downs, which run for twenty-eight miles in a general direction parallel and close to the coast as far as Bramber, where the Adur interrupts the high land. The chalk is cut across twice within this distance, first by the channel of the Cuckmare River, and next by the Ouse, which runs past Lewes. The breadth of this chalk range, from north to south, is in some parts six miles. The northern side of these Downs is the short slope, which in many places is exceedingly rapid, and rises abruptly above the lower undulating country at their base. From the Devil's Dike, five miles N.W. of Brighton on the northern margin of the downs, there is a most extensive prospect to the north, east, and west over the country drained by the Adur. Ditchling Beacon, about six miles north of Brighton, is 858 feet high.

West of Bramber the downs keep the same direction for eleven miles, till they are interrupted by the river Arun: the average breadth of these chalk hills is about 3½ miles: but as the coast gradually inclines more to the south, and the hills retain a western direction, the space between the downs and the sea gradually becomes wider. Chanctonbury Ring, 3½ miles W.N.W. of Bramber, and on the northern escarpment of the downs, is 814 feet high.

From the Arun, the hills run westward, passing near Petersfield on the north side of the range, and thence to Winchester, on the Itchin, a distance of altogether about thirty-four miles. Four miles north of Chichester is Rook's Hill Beacon (702 feet): this eminence is not on the north face of the range, but nearer the southern slope, and separated from the northern high ground by a depression, which lies in the general direction of the high land. About four miles west of Petersfield, the South Downs form an acute angle with the Alton chalk hills, the eastern escarpment of which runs about N. by E., till it joins the North Downs, near Farnham, separating the valleys of the Arun and the Wey from the streams that enter Southampton Water*. This cross chain of the Alton chalk hills may be considered, as far as we regard mere river boundaries, as the continuation of the Bagshot high land: it completely separates the Wey and the Arun from all the streams to the west. Butser Hill, which is three miles S.W. of Petersfield, and near the junction of this cross range with the South Downs, is 917 feet high.

From the flat land which commences immediately to the west of Brighton, where it is a mere strip, the level district between the downs and the sea widens, as we advance westwards, till, in the neighbourhood of Chichester, it attains its greatest width, of about ten miles, measuring from a point north of Chichester to Selsea Bill. The coast which, from the æstuary of the Thames to this point, is entirely without large æstuaries and deep bays, here begins

* Mr. Murchison, Geolog. Trans. vol. ii. Second Series.

to change its character. West of Chichester, we find the inlets of Chichester Harbour, Langston, and the deep inlet of Portsmouth Harbour. Farther to the west is the Southampton Water, which runs eleven miles into the interior in a N.W. direction; but it is of comparatively little importance, owing to its shallowness near the coasts. The inlets of Langston and Portsmouth Harbours are bounded on the north by a detached range of chalk hills of small elevation and little breadth, included within the chalk basin of the Isle of Wight, and running in a straight line from near Havant, westwards to Fareham, a distance of 7½ miles. This range is called the Portsea or Portsdown Downs *.

The Isle of Wight, which presents two faces to the opposite coasts, each corresponding in direction to that part of the coast which it looks at, forms with the main land a broad deep channel, with a wide entrance on the east, and a narrower one on the west.

We have traced the escarpment of the northern mass of chalk from the neighbourhood of Dover to Farnham; and that of the southern range from Beachy Head to Butser Hill: the cross range of the Alton chalk hills here connects the two masses. Had the chalk ranges on the north and south formed continuous masses, the aspect of this tract of country, which is ninety miles from east to west, and on an average about twenty from north to south, would have presented a very different appearance from what it does now. The rivers would have run from west to east, and formed an outlet between Beachy Head and Dover, and extensive swamps and lakes would have filled up some of the lowest grounds. At present, the north chalk range is broken by five distinct river valleys, and the south range by four. In the high lands between the two chalk masses, all of which have a general direction from east to west, and belong to formations lower in order of position than the chalk †, we must trace the boundary between the water-heads of the streams which enter the Thames, and those which flow into the English Channel. The South Downs present an abrupt face to the sea for eighteen miles between Beachy Head and Brighton; but this section, unlike that formed on the Kent coast by the termination of the North Downs, lies nearly in the direction in which the chalk-hills range, and consequently does not exhibit a section of their breadth.

The high cliffs of Folkstone, which are separated by a small depression from those south of Dover, are the commencement of some high land which runs west, forming the southern boundary of the Stour and Medway waters, as far as Ashdown Forest, a distance of about forty-five miles. This range is the north boundary of Romney Marsh, and of the streams of the Rother and the Ouse. Tenterden Church, in this range, is 322 feet, Goudhurst Church 497, Frant Church, two miles south of Tunbridge Wells, 659, and Crowborough Beacon, on Ashdown Forest, 804 feet. From Ashdown Forest, the line of separation between the northern and southern waters passes very nearly along Tilgate Forest, known for its organic remains, and St. Leonard's Forest, to Hind Head, eleven miles S.W. of Guildford (923 feet).

The high land of which Leith Hill (993) forms a part runs parallel to the chalk range between Dorking and Guildford, and is attached to it at one point.

From the rock on which Winchelsea stands, and from the high lands near Hastings, a range stretches into the interior in a N.W. direction, past Battle and Brightling Beacon towards Crowborough Beacon, with which, however, this range is not connected by any very distinctly marked high ground. Fairlight Down, above Hastings, is 599, and Brightling Down 646 feet.

The rivers which enter the sea between the Stour and the rivers of Southampton Water are not of sufficient importance to require a description here: they will be described under the several counties to which they chiefly belong.

The Remainder of the high Lands of the Chalk District.

The high land which runs N. by W. from the junction of the Alton chalk-hills with the South Downs is interrupted, after a course of fifteen miles, by the Itching at Winchester. From Winchester the Downs run in a N. by W. direction, a distance of nine miles, to the Anton or Test river; and along them, between Winchester and the Anton, we find the straight line of the Roman

* Portsdown, in Ordnance Map, No. 11.
† See Mr. Murchison's paper above referred to.

road from Winchester to Old Sarum. The valley of the Anton river, whose various branches rise in the high lands that divide the basin of the Thames from the valleys that open to the English Channel, interrupts the Downs. Following the Roman road to Old Sarum, we go along the high lands which bring us to the banks of the Avon. The Avon, whose main branch originates near Devizes, has a general southern and winding course to the sea, in a deep valley bounded either by ranges of downs running N. and S., as we observe to be the case on the left bank as far as Salisbury, or by a high flat level, as on the right bank. In fact, from the neighbourhood of Savernake Forest near Marlborough, we find a band of broad, spreading, rounded downs of unequal elevations, sometimes forming distinct ridges running S. on the E. side of the Avon valley (including in this term its tributary the Bowen) to Dean Hill (532 feet high) below Salisbury. From this point the high land is narrowed to an inconsiderable ridge, which terminates in the cliffs on Christchurch Bay east of the æstuary of the Avon. This high land is part of the New Forest. The extensive undulating plain called Salisbury Plain is mainly contained between the Avon and its western affluent the Wily: on the N. it is bounded by a range of hills stretching from Warminster, first N., then N. by E., which are intersected by the Avon at Upavon, and finally join the high lands S. of Savernake Forest. Salisbury Plain is about twenty miles long from E. to W., and fifteen in its greatest breadth from N. to S.: it is, in general, a barren, woodless tract, covered only by a short thin grass, and only admitting cultivation in the narrow and deep valleys that are watered by a stream. The high lands interrupted by the Avon at Salisbury are continued W. S. W. in two nearly parallel ranges, the southern of which contains what is called Cranbourne Chace: these two ranges unite a few miles E. of Shaftesbury. The western termination of this range may be considered to be the Castle Hill at Shaftesbury, eighteen miles from Salisbury, in a direct line: from this point the high lands run S. to Hamilton Hill, where they are interrupted by the Stour, which passes Blandford, and joins the Avon on the right bank near Christchurch. It is a character of these down-countries, like the chalk hills of Kent and Sussex, to be cut up into separate masses by transverse river-valleys. The high lands lying between the Stour and Avon, which are interrupted by the Stour, show themselves by their abutment on the coast, to the west of the Stour, between Hengistbury Head and the entrance of Poole Harbour or Studland Bay.

From Okeford Hill, which is opposite to Hamilton Hill, the downs run irregularly W. and a little to the S. for twenty-five miles, to the N. of Beaminster and the sources of the Frome and Brit, which enter the English Channel. They form, near Beaminster, "Horn Hill, which together with the hill on its north may be said to form the extreme point of its (the chalk's) connexion in the west of England*." From Horn Hill the chalk range continues S.S.E. on the E. side of the Brit to Shipton Beacon E. of Bridport, where it takes a bend to the E. and runs nearly to the sea, which it approaches within about a mile at Linton Hill near Abbotsbury. From the neighbourhood of Abbotsbury the chalk range continues its course through the middle of the peninsula called the Isle of Purbeck. It terminates in Ballard Down, opposite to the Needles in the Isle of Wight. The length of the downs from Shipton Beacon to the point opposite the Isle of Wight is about thirty-five miles. Their breadth is inconsiderable; but they grow wider as they run eastwards. For a distance of about thirty miles, measured along the coast, between Weymouth Bay in the west and Studland Bay in the east, they form cliffs by their section on the coast. The chalk, which is interrupted by the sea at the eastern extremity of Ballard Down, reappears at the distance of fifteen miles in the Isle of Wight, at the Needles in Alum Bay. High Down, near the Needles, is about 430 feet high. From the Needles a range of chalk downs is continued eastward through the island, and terminates in high cliffs at Culver on the eastern coast. It is remarked that the chalk, which is generally in a position nearly horizontal, is vertical in the Isle of Purbeck, and continues so through the central part of the Isle of Wight*. The ridge of chalk at the south side of the island is a distinct mass, and nearly horizontal.

The chalk range, which we have traced from Beachy Head to the neighbourhood

* Conybeare and Phillips, p.8

of Petersfield, forms the N.E. margin of a great chalk basin. Its northern and north-western boundary run past Winchester and Salisbury to Shaftesbury. The western boundary, which is completely interrupted by the Stour and partially by the upper streams of the Frome, terminates near Bridport. The southern boundary is formed by the downs stretching from Bridport to the extreme east point of the Isle of Purbeck, and thence continued through the Isle of Wight from the Needles to Culver Cliff*.

The largest river that belongs to the S.W. district of the chalk, and the only one worth describing in this general view, is the Avon. The Avon does not rise in the chalk, but, like most rivers of the chalk districts, it originates in the substrata of the chalk. An eastern branch comes from the vale of Pewsey, and a western and larger branch from the neighbourhood of Devizes: the two unite near Upavon Hill, when they enter the chalk country. The Avon has a general southern and tortuous course past Amesbury (near Stonehenge) to Salisbury, draining a narrow valley considerably below the level of Salisbury Plain. At Salisbury it receives on the right bank the Wily from near Warminster, which also rises in the strata below the chalk, and is increased by the Nadder; the Bourne joins the Avon at Salisbury on the left bank. From Salisbury the river becomes navigable, and entering Hampshire runs along the west side of the New Forest to Christchurch, two miles below which town it falls into Christchurch Bay, close to Hengistbury Head. At Christchurch the Avon is joined on the right bank by the Stour, which comes from Stourhead, Wilts, and cuts through the N.W. boundary of the chalk basin. The whole course of the Avon is about seventy miles.

The Valleys of the Bristol Avon and the Parret.

The tract to which these rivers belong properly forms a part of the drainage of the Severn æstuary, but as it does not actually belong to the valley of that river, it may perhaps best be described here. It may be considered as commencing near Berkley on the æstuary of the Severn, and terminating on the coast at the Quantock Hills on Bridgewater Bay, to the west of the outlet of the Parret. This distance, measured along the coast, is about fifty-five miles*.

The inland boundaries of this district, as determined by its drainage, may be defined as follows:—by a straight line drawn from Berkley and continued between Dursley and Wotton-under-Edge to Minchin Hampton; thence to Wootton Basset, passing a little to the east of Malmesbury: from a point a few miles S.E. of Wootton Basset, past the sources of the Kennet to Morgan's Hill and Devizes: from Devizes along the N.W. margin of the high lands of Salisbury Plain to a point between Westbury and Warminster. From this point to Horn Hill, near Beaminster, the line becomes very irregular, owing to the course of the Stour, which, as before observed, cuts through the N.W. margin of the chalk basin of the Isle of Wight, and destroys the continuity of the boundary already described as terminating near Beaminster.

The high lands south of Warminster run S.W. over Kingston Cow Down to the sources of the Brue and the Cale, an affluent of the Stour (Bristol Avon). About two miles west of Wincanton, they spread out to the breadth of three or four miles, where we find a range beginning with Charleton Hill, running S.S.E. to near Stallbridge Park, where it makes an elbow, and turns to a W. and S.W. direction, forming the high land known as Henover Hill, Gainsborough, &c. to the S. of Sherborne on the Yeo in Dorsetshire. This range, forming the boundary between the valley of the Yeo (a branch of the Parret), and that of the Stour (a branch of the Salisbury Avon), is connected by some land of small elevation with the hills already described as running W. from Okeford Hill on the Stour to the neighbourhood of Beaminster.

From Horn Hill, near Beaminster, the line continues to Shave Hill Lane, an outlying mass of chalk near Crewkerne; thence westward partly along another outlying mass of chalk to Chard: from Chard along the northern margin of the Black Down Hills on the east side of the Exe valley; thence from the western termination of these hills in a N.W.

* Conybeare and Phillips, p. 83.

* Tortworth, a few miles S.E. of Berkley, is considered as the apex of the Bristol Basin, and the Mendips as its base, in the complete geological description of the "South Western Coal District of England," by Messrs. Buckland and Conybeare, Geolog. Trans., vol. i, Second Series.

direction to Haddon Down Hill, thence to the east part of Brendon Hill, and thence eastward to the southern point of the Quantock Hills, which take a N.W. course and abut on Bridgewater Bay.

The tract thus limited is divided into two parts by a range of hills, which, commencing not far from Warminster, and the N.W. margin of the chalk-basin, runs along the sources of the Brue and Frome (a branch of the Bristol Avon), to the neighbourhood of Shepton Mallet. Here the hills assume the character of a distinct range, and are called the Mendip Hills. From Little Elm, a point between Frome and Shepton Mallet, the Mendips run in a general W. direction to Banwell Hill, a distance of above twenty miles. A large part of the Mendips form a high flat, along which the Roman road to Old Sarum runs: the N. and S. slopes are tolerably rapid. The greatest breadth of the range is about five miles, and Blackdown Hill the greatest elevation, is stated at about 1100 feet. The axis of the Mendip Hills consists of old red sandstone, rising in four distinct ridges above the mountain limestone on each side of it, and forming the highest summits of the range: lead, to a small amount, and lapis calaminaris are produced in the Mendips. Bleadon Hill, which may be considered as a continuation of the Mendips, approaches within a short distance of the sea at Uphill Bay. The Yeo enters the sea to the north of this point, and the Axe to the south, their valleys being separated by the Mendips. The district N.W. of the Mendips contains some extensive level and marshy lands bordering on the Bristol Channel.

Between the Quantock Hills and their eastern offsets, which are the western boundary of the lower course of the Parret, and the outlet of the Axe, we find the level tracts of Huntspill and Durnham level, with the solitary elevation of Brent Knoll in the middle, stretching out to the coast of the Bristol Channel. The river Brue, which joins the Parret, near its outlet, on the right, has its sources near those of the Frome (a branch of the Avon), near Bruton: it runs through a low wet valley, the southern boundary of which is the Polden Hills, which may be considered as connected with the high lands west of Wincanton. The district bounded by the Mendip Hills on the north, Polden Hill on the south, Bridgewater Bay on the west, and reaching to Wells and Glastonbury on the east, is the extensive Brent Marsh, which is subdivided into two parts by the elevated insulated tract on which stand Chapel Allerton, Mark, Wedmore, and Badgworth. The northern part is drained by the Axe, and the southern, by the Brue. This district, naturally an immense swamp composed of light earth and vegetable substance floating on the water beneath it, has been to a considerable extent improved by draining. The peat mosses, which furnish fuel to the inhabitants, are often five or six feet above the adjacent lands. Timber trees, oak, willow, and fir, are found in the bogs fifteen or twenty feet below the surface, with their roots in their natural position, but the trunks prostrate.

The Polden Hills are separated by the Cary, an affluent of the Parret, from the high lands of Somerton beyond the Cary and the Brue. These moors extend to Langport, where the Yeo and Parret unite, and they are continued S. of the Parret in a S.W. narrow ridge to Staple Hill, the source of the Isle (a branch of the Parret), and then westward under the name of the Black Down hills. A line drawn about N.W. from the western extremity of the Black Down Hills to Haddon Down Hill, a distance of ten miles, forms the boundary between the basin of the Tone, an affluent of the Parret, and the waters of the Exe basin.

The high lands between the Mendip and the Avon are connected with the Mendips. Near the sources of the Chew (a branch of the Avon), in the Mendip Hills, the high lands run for a few miles N. from Chewton Mendip, and then E. by N. to Bath on the Avon, where the river makes the great bend to the west. Here the hills inclose Bath in a natural amphitheatre. The valley of the Yeo river separates the Mendips from the broad tract of high land which runs westward from the Chew, and terminates at the flats of Ken Moor, within three miles of the sea. The tract thus included between the Yeo, the Chew, and the Avon contains Dundry Hill, 1668 feet.

The high lands N. of the Avon form several small ranges generally parallel to the course of the Severn æstuary. One, which commences at Clevedon on the Bristol Channel, S. of the Avon, is detached by the small depression of Nailsea coal-field from the high lands of Broadfield Down. From Clevedon this

high land runs nearly N.E. till it is cut by the deep channel of the Avon at Clifton near Bristol. From Shirehampton the western escarpment continues N. of the Avon, in a N.N.E. direction past Almondsbury and along the Ridgeway, where one part bends to W. of N. and comes close upon the Severn near the ancient encampment of Oldbury. The other part continues its course to Milbury Heath and Cromhall Heath, 4½ miles S.W. of Wotton-under-Edge The whole course of this range from Clevedon is above twenty miles. Another range of high land commences on the Avon, above Bristol: it runs first N.N.E. and then N., past Chipping Sodbury and Wickwar, till it meets the western range about Cromhall Heath. These two ranges contain between them the longitudinal valley of the Frome, an affluent of the Avon. Another tract of high land, commencing with Lansdown Hill (813 feet), N. of Bath, has a general northern course with its scarped side to the west, to the heights about Wotton-under-Edge and Dursley.* This range forms the western boundary of the drainage of the Avon proper: the long valley between it and the more western range running past Chipping Sodbury has two slopes; one, to the south, contains the Boyd, a small affluent of the Avon; the other, to the north, is drained by the Little Avon, which finally takes a western course and runs past Berkley into the Severn. There is no well-defined boundary for the eastern side of the valley of the Avon proper. The district which is drained by the Avon, though of no great extent, is in many respects very interesting from the deep cuts which this river makes in its transverse passage through the high lands. It also contains the most southern coal-pit in the island. This field extends with an irregular area for about twenty-five miles, from Tortworth in the north to Coleford in the south, at the foot of the Mendips, and five miles west of Frome. The breadth of the coal-field from the Newton collieries near Bath to Bedminster, near Bristol, is about eleven miles: the course of the Avon nearly corresponds to this line, and consequently cuts the coal-field into two chief parts. That to the north of the Avon is the more extensive, and lies pretty nearly in the basin of the North Frome *.

The Avon rises at Tetbury, and takes a southern course past Malmesbury, below which it receives a branch from the neighbourhood of Wootton Basset. Its course is then past Chippenham, to Melksham and Bradford. From Bradford it has a winding course of ten miles to Bath. Between Bradford and Bath it receives, on the left bank, the South Frome, which flows past the town of Frome. At Bath it becomes navigable. Below Bath, from which it has a general W.N.W. course, it receives on the right bank the North Frome: it then passes Bristol, about ten miles below which it enters the sea. Its whole course is about eighty miles.

The Avon forms many beautiful valleys, and, as its channel is through the high lands in a transverse direction, it is, for a large part of its course, in a deep bed. A few miles below the high rocks of St. Vincent at Clifton, it enters the flat and marshy country.

IV. *The Mountains of Devonshire and Cornwall.*

The part of England that remains to be described may be considered with tolerable accuracy as lying west of a line, thirty-five miles in length, which joins Quantockshead on Bridgewater Bay and Axmouth, near the mouth of the Axe. This peninsula comprises the whole of Devonshire and Cornwall, with a small part of Somersetshire, and has an area of 4000 square miles. Its greatest length, which is about 120 miles, lies in a line about W.S.W.: its greatest breadth between Ilfracombe on the Bristol Channel and Start Point is seventy-three miles. A large part of the coast is faced by precipitous rocks, and broken into numerous bays and æstuaries, particularly on the southern coast.

The small tract between the mouth of the Brit and that of the Otter, measuring twenty-five miles along the coast, requires only a brief notice: it forms a kind of separate district between the S.W. termination of the continuous chalk range and the eastern boundary of the Exe valley. The northern boundary of this tract has already been defined: the western is formed by a range of high land which runs from Black Down (a hill on the S.W. margin of the Black Down Hills), and is continued close along the west bank of the Otter, separating this valley from that of the Exe. The eastern boundary is the high land on the east side of the Brit, which forms the western

* See the description of this coal-field in the Geolog. Trans. above referred to, p. 55.

limit of the Isle of Wight chalk basin. The high land running due west from Horn Hill sends off a small elevation between the Brit and the Char, which terminates in a section, forming cliffs on the coast between these two rivers. The high land, continuing its western course past the source of the Char, and Pilles-don Pen (934 feet), sends off a branch to the coast between the Char and the Axe, forming also, by its section on the coast, high cliffs. Charton Common, half a mile from the sea and midway between Lyme and Axmouth, is 582 feet high *. A range of high land runs from the N.E. extremity of the Black Down hills, between the upper stream of the Otter and the Yart (a western affluent of the Axe), in a southern direction, forming the long range of Stockland Hill, Gittesham Hill, Broad Down, Beacon Hill, and Peake Hill, near the east bank of the Otter, and close on the coast. This high land forms, by its section on the coast, the cliffs between the mouth of the Axe and the Otter.

A line for a ship canal was some time ago proposed between Beer Roads, Seaton Bay, on the English Channel, and Wick Rocks, Bridgewater Bay. The line passes Chelson, where it attains its summit level at an elevation of about 260 feet above the Bristol Channel at low water; then near Chard; near West Hatch (where it leaves the summit level); across the river Tone, to Bridgewater: and thence to Wick Rocks. The ascent in the first part of this course is rather more rapid than the descent in the last part †.

The great mass of the mountain lands of this district is contained between the Exe and the Tamar, which latter river appears to disconnect the high table-lands of Dartmoor from the granite mountains of Cornwall: but this separation is only apparent, and we may consider the whole high lands west of the Exe valley as one system. Dartmoor Forest extends between the Exe and the Tamar about twenty-five miles in its greatest length, and about the same distance from N. to S., measuring from near Okehampton in the north to Mooredge, north of Modbury, and six miles from the south coast.

A range of high land branches off from Dartmoor on the N.W., and is continued along Broad Bury Hill, at no great elevation between the Tamar and the Torridge, till it joins the high land which forms the bold and rocky section of coast between Appledore at the mouth of the Torridge and Hartland Point. Another range, running N.N.W. from the neighbourhood of Okehampton between the Torridge and the Taw, terminates on the Taw opposite to Barnstaple. On the S.W. the high lands of Dartmoor, continued along Crown Hill Down and some lower eminences, approach Plymouth on the Hamoaze. On the S.E. we may consider the high lands as extending from Hamilton Down and Rippon Tor on the E. side of Dartmoor, along Ashburton Down, Denbury Down, and terminating between the Teign and the Dart in the high promontory of Hope's Nose, which forms the N. side of Torbay. Another range or tract of high land takes a more southern course from Denbury, and fills the peninsula between the Dart and Berry Head, on the S. side of Torbay. Here we find Furland, on the E. side of the Dart, between Brixham and Dartmouth, 589 feet high. The greatest part of the coast between the mouth of the Teign and Berry Head, with the exception of part of Torbay, is lined with high cliffs, which are backed by hills varying in height from 200 to 500 feet *.

Dartmoor Forest is computed to contain 80,000 acres, or 125 square miles †; but this is evidently a much smaller surface than properly belongs to the high lands of Dartmoor, which probably occupy at least twice this area. The chief mass of Dartmoor forms a high plateau of irregular surface, on which the greatest elevations exhibit huge masses of granite, which rock also forms the nucleus of the whole region. The following elevations on Dartmoor have been ascertained:—

	Feet
Butterton Hill, about fourteen miles N. by W. from Bolt Head	1203
Rippin Tor, about fifteen miles S.W. of Exeter . . .	1549
Cawsand Beacon, about seventeen miles W. of Exeter . .	1792

The steepest ascent to Dartmoor is from the south; on the north its slope is more gradual.

The rivers of Devonshire, with the exception of the chief branch of the

* See Mr. De la Beche, On the Chalk and Sands beneath it in the vicinity of Lyme Regis, Dorset, and Beer, Devon. Geolog. Trans., vol. ii., Second Series.

† See Section in Priestley's Canals.

* Mr. De La Beche, Geolog. Trans., Second Series, vol. iii. pt. 1.

† Maton's Survey of the Western Counties, i. p. 299.

Exe, when traced to their sources, are found to rise in the extensive elevated plateau of Dartmoor, near the centre of the county. Down the S. side flow the Tavy, Plym, Yealme, Erme, Avon and Dart: down the N., the two Okements and the Taw. On the S.E. side is the Teign; and on the W., the Lyd, a small stream. The ascent to the mountain-plain along the valleys of the rivers is often steep and narrow; all the streams diverge from the central mass, and all the largest rivers rise near one another in swampy ground. Ascending to Dartmoor by the valley of the Erme, which in its lower part is narrow and steep, we find the valley become wider as we ascend higher; and at a little more than three miles N. of Ivy Bridge (which is one mile west of Mooredge), it flows over a plain gently sloping to the S. This mountain plain at Harford Church is 658 feet high, and entirely of granite; the point of termination between the grauwacke, which is contiguous and superior to the granite, is seen distinctly in ascending the valley of the Erme. From Harford Church the bare mountain-plain extends beyond the visible horizon; the face of the country is covered with undulating surfaces, which do not form distinct mountains: there is hardly any grass, no dwellings, and the soil is boggy, but in general not deep. The ground gradually rises as we approach the source of the Erme, nine miles N. of Ivy Bridge and 1131 feet above the sea level. Two Bridges, which stands near the middle of this mountain-plain, fourteen miles N. of Ivy Bridge, is 1148 feet high; and the granite country appears to extend northwards to Okehampton, which is only 423 feet high. The rivers Okement and Dart rise in Craw-Mere Rock, supposed to be the highest point of that part of the country. On the road between Two Bridges and Tavistock numerous granite blocks are seen lying on the surface, some of which may have come from the neighbouring Tors—a name given to many of the elevated masses of rock in Devonshire and Cornwall. Within 3½ miles from Tavistock the grauwacke again shows itself at the height of 1129 feet; the descent towards Tavistock then becomes pretty quick, and a change in vegetation commences on leaving the bare and barren region of the primitive rock*.

* On the Dartmoor, see Dr. Berger, Geological Transactions.

The high lands which line the Devonshire coast on the N.W. and N., and extend eastward along the N.W. coast of Somersetshire, form a distinct mass.

From the high cliffs of Baggy Point, on the N. side of Barnstaple (otherwise called Bideford Bay), some high land runs E. nearly parallel to the coast on which Ilfracombe stands, forming a watershed for the short streams that enter the Bristol Channel. After running about sixteen miles E., the high lands spread out N. and S., forming the elevated mass of Exmoor. These high lands, with some interruptions, press close on the Bristol Channel and run E. to the valley of the Parret. On this coast we find the high cliffs of Old Barrow Down E. of Countesbury; and further E., the Quantock Hills, which run down to the Bristol Channel in a N.N.W. direction, and form the western boundary of the valley of the Parret. The high lands called the forest of Exmoor are reckoned to be about eight miles from N. to S., and about twelve from E. to W., with a surface of 19,900 acres. The summits of the hills, especially on the N. and W., contain peat swamps of many acres in extent: hardly a tree is to be seen, except on the banks of the numerous rivulets which pour their waters into the chief streams, the Barl and Exe. Dunkery Beacon may be considered as the eastern extremity of Exmoor, and probably one of the highest points on it. Exmoor is chiefly used as a sheep pasture. A bed of limestone is said to run through the forest from E. to W.; and iron and copper ore also have been discovered on this high land; and slate has been got at Simonsbath, near the centre of the forest.

The chief river of the district W. of the line drawn from the Bristol to the English channel is the Exe: the eastern and northern limits of its basin have been already described.

Exe River.

The source of the Exe is at Exhead, about five miles S. of the coast of the Bristol Channel, in the high lands of Exmoor, near Ashcombe Hill. The line of the Black Barrow Down, Codsend Moor, and the Brendon Hill, form the watershed between the small streams which run towards the Bristol Channel and those that belong to the basin of the Exe. The Exe has a general S.S.E. course to Exton Hill on its left bank, where it turns due S., which is its gene-

ral direction to its outlet. After leaving Haddon Down Hill on the left bank, it is joined on the W. by the Barle, which rises near the western edge of Exmoor. The Exe then flows S. past Tiverton, eleven miles S. of which town it is joined on the E by the Culme, which rises in the Black Down Hills on the E. side of the Exe basin: and 1½ miles lower down it is joined on the W. by a stream that runs past Crediton. Eleven miles below Exeter the Exe forms a large æstuary, which is contracted near Exmouth, where it enters the English Channel, being first joined on the E. bank by the Clist river near Topsham, six miles above Exmouth. The Exe valley is contracted below Exeter on the W. side by the Great Haldon and Little Haldon (818 feet), which lie between the Ex and Teign and terminate in the high rocky coast, running N.N.E. from Teignmouth: on the E. it is bounded by the hills between the Clist and the Otter, which running S. from Rockbere Hill (one mile W. of Ottery St. Mary on the Otter), under the names of Ottery Hill, Woodbury Common, Black Hill, &c. terminate in the bold cliffs between Exmouth and the mouth of the Otter.

The general character of the Exe valley above Exeter is that of a hilly or undulating country. The course of the river is about fifty-five miles.

At Exmouth the tides rise sixteen or eighteen feet at springs, and seven or eight at neaps. The tide ascends the river to Countess Wear, a distance of about eight miles, up to which place the river is navigable. Countess Wear is about two miles below Exeter*.

Rivers of Dartmoor.

The Tay, which passes Tavistock, and at its junction with the Tamar, a little above Saltash, is called the Tavy, rises between Okement Hill and Amicombe Hill. The Dart, which enters the English Channel just below Dartmouth, rises also at Okement Hill, and, in fact, some of its upper streams are confounded with those of the Tay. The Teign, which first runs E, and finally enters the sea at Teignmouth, rises a very short distance to the E. of Okement Hill, and some of its upper streams are mingled with those of the Dart. The East Okement and the West Okement also rise in and near Okement Hill: they unite at Okehampton, and form one of the chief branches of the Torridge, which enters the Bristol Channel below Bideford; and the Taw, which also runs N. and nearly parallel to the Okement, and enters Barnstaple Bay, rises at Taw Head on the S.E. extremity of the Okement Hill, and hardly half a mile from the Dart Head. Within a circuit of a few miles we find in this elevated swamp the sources of rivers which make their exit from this high flat down the slopes towards almost every point of the compass.

The mountain region west of the Tamar may be traced from the high lands near Hartland Point, which are the common source of the Torridge and Tamar, along the N.W. coast of Cornwall, where they form high cliffs, to the north side of Padstow æstuary. Near Camelford, about half way between Padstow æstuary and Launceston near the west side of the Tamar, they take a southern course spreading on the S.E. to Callington and Hingston Down on the west bank of the Tamar, and then running W. past Liskeard to Bodmin: this district is the largest and most compact mass of the Cornwall high lands. It contains Brown Willy (1368 feet), which is on the same parallel with the highest lands of Dartmoor; the tract of Bodmin Moor; and the district of the Tors, N. of Liskeard.

The Cornish high lands stretch from Bodmin Moor, S. W., to Redruth, Tregonnin Hill near Marazion, and round the northern part of the peninsula formed by St. Ives Bay and Mounts Bay, to Sennen one mile E. of the Land's End: the granite cliffs of the Land's End are not above 60 or 100 feet high. West of Bodmin the Cornish lands contract to a comparatively narrow strip with a granitic axis. The slope of this part of the range towards the two seas is pretty nearly the same, but apparently more rapid on the N. side. The highest points are Hensbarrow, 1034 feet, 2½ miles N. of St. Austell; Carn Menelez, 2½ miles S. of Redruth, 822 feet; and Carnminnis near St. Ives, 805, Pertinney, 680, and St. Burian, 415 feet, all within the extreme S.W. peninsula formed by St. Ives and Mounts Bay.

In going from Launceston to Bodmin, a distance of twenty miles, we cross the most continuous tract of high land in Cornwall, which for 9¾ miles is a granitic plain about 800 feet high, and

* Rev. Mr. Baker, Bolton, Lancashire.

topped like Dartmoor with a boggy soil. Several rivers have their origin in this plain, which is like another Dartmoor on a small scale. The Fowey flows into the English Channel, the Lynher into the Hamoaze, and the De Lank river past Padstow to the other coast.

The chief river of Cornwall, the Tamar, rises near Worley Barrows, seven miles S.S.E. of Hartland Point on the N. coast: its general course is S.S.E., and in the southern part of it the river makes considerable bends. About 1½ miles above Saltash it is joined on the left bank by the Tavy from Dartmoor, which runs past Tavistock. Below Saltash the Tamar takes the name of Hamoaze, and is joined on the right bank by the St. Germans or Lynher river, after which it enters the spacious bay called Plymouth Sound. The tide ascends the Tamar to the Weir-head, 17 miles from Devil's Point: it is stopped here by the Weir and a double lock of the Tavistock canal*.

From the peculiar form of the rocky peninsula in which the island terminates to the S.W., it presents a number of striking and characteristic appearances. In going from Bodmin to Truro there is a view of the whole Bristol Channel from St. Michael: the inn called the Indian Queen, on this road, is 491 feet above the sea-level. The view of Falmouth Harbour from the heights of St. Just is described as exceedingly romantic. "It resembles very much the situation of Loch Long and Loch Fine in Argyleshire. There is at first some difficulty in believing that all these creeks which penetrate so far into the interior of the country are basins of salt water†."

The promontory of the Lizard, the most southern point of the island, forms the extremity of the peninsula between Falmouth Harbour and Mounts Bay: it is composed of serpentine.

Dr. Boase, in his remarks on the Geology of Cornwall ‡, makes the following divisions of the Cornish peninsula for convenience of description. The east district, lying between the Tamar and a line joining Padstow harbour and the mouth of the Fowey, contains the large granitic mass of which Brown Willy is nearly the centre: this granite district, which is about ten miles from W. to E. and six or seven broad in the widest part, is one dreary waste, without trees. The bottoms of the valleys are covered with bogs, in many places more than 12 feet deep, the lower part of which consolidates into peat. Kit Down Hill (699 feet), near Callington, is a detached mass of granite. Central Cornwall, lying between the western boundary of East Cornwall and a line drawn up Truro River to Gannel Creek on the opposite coast, contains a patch of granite about ten miles long from E. to W. The boundary-line between Central Cornwall and East Cornwall touches the eastern extremity of this granite mass, and the Indian Queen is about the N.W. termination of it. This granite is less elevated than that in the eastern district, but it is more metalliferous. The third district is bounded on the W. by a line drawn from the creek of St. Erth to Cuddan Point, in Mount's Bay. It contains two patches of granite: the larger extends from near Penryn in the E. to Crowan in the W., and from near Helston in the S. to Redruth in the N. The smaller mass to the W. contains Tregonning and Godolphin hills, and runs down to the coast at Trewavas Head; but it is separated from the granitic hills of Crowan and Wendron by the intervention of a narrow valley of slate. This phenomenon appears of common occurrence in Cornwall. "If," says Dr. Boase*, "we examine those valleys in Cornwall which are at right angles with the central range, it will be frequently found that the schistose rocks run up these to a considerable distance, forming, as it were, bays and inlets on the sides of the large insulated masses of granite: sometimes, indeed, these intruding beds of slate meet from opposite sides, and thus cut off patches of granite from the main masses. Thus we learn how difficult it is, even in a country comparatively so well known as Cornwall, to trace the precise boundaries of the rocks, since even the distinctly characterized granite and slate cannot be accurately laid down, unless minutely examined step by step."

The fourth separate district, which we may call the Land's End district, occupies the remainder of the Cornish peninsula. The greater part of it is composed of granitic rocks, exhibiting numerous sections at or near the junction of the granite with the slate.

* E. Moore, M.D., Plymouth.
† Dr. Berger, Geological Transactions.
‡ Trans. of the Geolog. Soc. of Cornwall, vol. iv. 1832.

* Treatise on Primary Geology. London, 1834.

The mineral wealth of the district of which we have just given the general outline will be noticed in the description of Devonshire and Cornwall.

V. *The Mountains of Wales.*

These mountains constitute an entirely separate and independent system, being divided from the high land of central England by a comparatively low and flat country, which in the northern part consists of the plains of Cheshire and Salop; and in the southern, contains a wide valley, which, from the river which traverses it, may be called the valley of the Lower Severn. The whole of this tract extends from the æstuaries of the Mersey and Dee on the north to that of the Severn on the south, between 53° 26′ and 51° 40′ N. lat., and consequently about 115 miles in a straight line.

The plains of Cheshire and Salop, which occupy the northern part of this low land, extend nearly 50 miles from N. to S., with an average breadth of 25 or 30 miles. Their eastern boundary is the high range of sandstone hills which stretch from N. to S. along the borders of Cheshire and Staffordshire; and farther south, the high land between Newcastle-under-Lyne and Drayton to the elevated country near Coalbrook Dale, to the north-west of which the hill called the Wrekin, about six miles east of Shrewsbury, rises to the height of 1200 feet. From the Wrekin the south-eastern boundary of the plain crosses the Severn nearly at the place where the river changes its eastern to a southern course; and then it runs along Wenlock Edge, which stretches from N.E. to S.W *. West of Wenlock Edge is the range that contains Caer Caradoc and its northern prolongation, the Lawley Hills. In the parallel of the southern extremity of this range, a hilly country extends from the banks of the Severn to the mountains of Wales. It contains the Clee Hills on the east of Wenlock Edge, and on the west of the Caer Caradoc range the Longmynd, which belongs to the mountain-system of Wales, and covers the country between Church Stretton and Bishopscastle†: all these ridges extend from N.E. to S.W. The general elevation of this hilly tract is from 800 to 1500 feet above the Severn, which is about 150 feet above the sea high-water mark. It is completely intersected by two straight and simple valleys, the direction of which is nearly N.E. and S.W., and by several smaller, which are parallel to the larger, and through which small rivers descend towards the plain of Salop or the basin of the river Teme *. The western boundary of the plain of Salop is formed by the Longmynd, the Breidden Hills and the hills which extend from Llanymynech northward to the west of Oswestry, and thence to Ruabon and to Hawarden Park, in Flintshire.

The surface of the Cheshire plain rises gradually from the æstuaries of the Mersey and of the Dee towards a line running from east to west, from Whitchurch to the village of Selatyn, a little north of Oswestry †, which line, forming the watershed between the streams running to the Dee and Severn, is intersected by the Ellesmere Canal, the highest part of which is about 309 feet above the tideway of the Dee. So small is the elevation of the high ground which connects the mountain-system of Wales with that of central England.

The southern part of the plain of Salop is rather more undulating, having usually the southern declivities of the hills steeper than the northern, and sometimes even precipitous, where they constitute the boundary between the valleys of the Severn and the other rivers; but none of these eminences exceed the height of 400 feet above the Severn at Coalbrook Dale. From this plain the Wrekin rises with an abrupt ascent on the north and west.

The valley of the Lower Severn extends from the neighbourhood of Coalbrook Dale to the æstuary of the Severn near Berkeley. Its eastern boundary is formed on the north by the high land running to the west of Wolverhampton to the banks of the Stour (an affluent of the Severn), near Stourbridge. So far the high lands of Central England bound the valley. On the southern banks of the Stour rise the Lickey Hills, whose northern termination is at Hagley, whence they continue south-eastward to Tardebigg, on the east of Bromsgrove, and then run by Feckenham Forest to

* See Ordnance Maps, No. 61. † Idem.

* Arthur Aikin in his Tour through North Wales; and in the Geol. Trans., First Series, vol. iii. Yates, Geol. Trans., Second Series, vol. ii.

† Arthur Aikin, Geol. Trans., First Series, vol. v.

the high road west of Alcester, and at last slope off into the vale of the Avon near Evesham. Running from N.W. to S.E. at a distance of about eight miles from the bed of the Severn, the Lickey Hills divide the valley of this river from that of the Avon, its tributary, and rise to about 800 or 900 feet above the sea *. South of the Avon the valley of the Severn is narrowed by Bredon Hill, which rises south of Pershore to the height of about 800 or 900 feet, and is connected with the Cotswold Hills near Cheltenham.

On the west, the valley of the Lower Severn is bounded by the high lands which connect the southern extremity of Wenlock Edge with Aberley Hill in the north-western district of Worcestershire. These hills rise to about 800 or 900 feet above the level of the Severn, and are connected with the Malvern Hills, which, farther to the south, divide Herefordshire from Worcestershire. The Malvern Hills form an uninterrupted range of about nine miles in length, extending nearly in a straight line from N. to S.: their greatest breadth from E. to W. does not exceed two miles. The highest summit, which is nearly in the centre, and called Hereford Beacon, rises to 1444 feet above the level of the sea. On the eastern side the hills rise at a considerable angle from the level plain that stretches to the banks of the Severn, a distance of about three or four miles. On the western side the ascent is more gradual, and the country in that direction for several miles exhibits a succession of small hills †. This hilly tract is only divided by the valley of the Ledbury, which is six miles wide, from a range of hills which commences four miles E. of Hereford with Marcle Hills and Stoke Edith, and extends nearly twenty miles southward to Flaxley, three miles N. by E. of Newnham. This range contains May Hill (963 feet), on the road between Gloucester and Ross. Near Hereford these hills occupy a breadth of five miles from E. to W., but they become more contracted in their progress southward, and their southern extremity at Flaxley is only a few hundred yards broad. On the S. this range nearly joins the hills of Dean Forest, which separate the valley of the Wye, towards the mouth of the river, from that of the Severn, and terminate not far from the æstuary of the latter river. They rise to an average height of 900 feet *.

The valley of the Lower Severn, except where the valleys of its tributaries open into it, never exceeds twelve miles in width, and is often narrowed to five or six: it consists of a low strip of land along its banks, which varies from a quarter of a mile to a mile and upwards in breadth. This strip is separated from the hills by another tract, rising to 50, 100, and even 200 feet above the level of the river †.

The mountains which cover nearly the whole surface of Wales are so closely connected as to constitute one system; but nearly in the middle they are intersected by two wide valleys, the upper extremities of which are divided by a mountain range measuring not more than 15 miles across. These are the valley of the Dyfi, from Machynlleth to Cardigan Bay, and that of the Severn below Llanidloes. This natural division of the mountain system coincides nearly with the political divisions of North and South Wales.

Mountains of North Wales.

The mountains which lie to the north of 52° 30′ rise from all sides towards a centre, where they form an extensive elevated tract, with an extremely irregular surface, and of the form of a five-sided figure. The north-western side is formed by the Snowdon range, which begins on the south a few miles from the northern angle of Cardigan Bay, and extends N.N.E. to the mouth of the river Conway. A line intersecting this range between Carnarvon on the Menai Strait and the town of Llanrwst on the Conway, and prolonged to the Hiraethog mountains east of the last-mentioned place, forms the northern boundary of this mountain tract. The north-eastern boundary follows the chain of high hills accompanying the Conway river on its right bank, and intersects the Dee at its confluence with the Alwen, near the church of Llangar, a mile above Corwen, and is further prolonged to the summit of Moel Ferna, in the Berwyn

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* Buckland, Geolog. Trans., First Series, vol. v.
W. Pitt, Agric. Survey.
† Horner, Geolog. Trans.

* Buckland, Geol. Trans., Second Series, vol. i.
† W. Pitt in Agric. Survey of Worcestershire.

range. The Berwyn range, running to the S.W., constitutes the south-eastern boundary: the western is formed by an irregular line, which begins at the summit of Cader Idris, and whose progress northward is marked by the numerous high summits which, at a distance of about five miles from the Bay of Cardigan, extend between the rivers Maw and Dwyryd, and to the north of the latter river join the Snowdon range, not far from the village of Beddgelert. These boundary lines have respectively a length of about 12, 10, 20, 25, and 25 miles.

The surface of this elevated tract, which comprehends about one-fourth of the whole area of North Wales, is, in its lowest parts, probably not less than 600 feet above the sea, with the exception of the deep valleys by which the larger rivers make their exit. But in no district of this country is there any tract of great extent which can be called a plain, the whole surface being a continual succession of ascents and descents, whose slopes in general are very steep. Few of the numerous peaks, however, contained within the limits of this elevated tract, attain such a height as those which occur on the ranges which include the high land on the S.E., W., and N.W. The highest summits occur in the range which separates the rivers falling into Cardigan Bay from those which run off to the sea between the mouth of the Mersey and the Menai Strait. This range begins in the Berwyn mountains, at the source of the Dee, where the peak called Arran Mowddry rises to 2955 feet. Hence it extends to Dews y Nant, on the road between Dolgelley and Bala, then to Llyn Trywerin, between the sources of the Trywerin and the southern branch of the Dwyryd. Thus far it lies nearly S. and N.; but from this point it declines to the N.W., dividing the affluents of the Conway from those of the Dwyryd till it joins the Snowdon range. Some summits of this range, more especially those near the Berwyn, attain a height of upwards of 2000 feet; and the Arennig, between the lakes Llyn Arennig and Llyn Trywerin, rises to 2809 feet.

The Snowdon range, which, as we have already observed, forms the north-western boundary of the mountainous tract just described, contains the highest summits in England. Its direction lies from N.N.E. to S.S.W. It begins at a short distance west of the mouth of the Conway river, at Penmaen Bach, from which place, to the neighbourhood of the village of Aber, it forms a high precipitous coast, nearly in the middle of which rises the Penmaen Mawr to the height of 1540 feet. Along the precipitous side of this mountain, at an elevation of 200 feet above the sea, which washes its feet, the high road runs from Bangor to Conway. From this point southward the mountains increase in height, but recede from the shore: the Carnedd Llewelyn rises to 3469 feet above the level of the sea. The mountains which join this summit to the S.W. have many summits which rise above 3000 feet: but the most remarkable is that extensive mountain-mass known under the name of Snowdon, which has three summits of nearly equal height, the most elevated of which, called Wyddva, or "the conspicuous summit," attains 3571 feet. To the south of the Snowdon, the mountains decrease somewhat in height, their summits not attaining above 2500 feet (Moel Hebog 2584), but not in mass, until they approach the north-eastern angle of Cardigan Bay, where they begin to sink lower and terminate with the Moel Gest, standing to the N.W. of Morfa Lodge, which rises to the height of 955 feet. The whole length of this range, following the zigzag directions of its summits, cannot fall short of 35 miles; but the distance between its extreme points in a straight line hardly exceeds 24 miles. Its breadth varies between five and seven miles. The general escarpment is on the western side, and is very precipitous; on the east, where it joins the high land, the descent is commonly much more gentle. The loftier summits of this range are of primitive formation; these are flanked on both sides by immense beds of slate, and this slate supports strata of limestone upon the Menai Strait. This range contains copper ore in many places. The greatest part of the rocks are bare, and only in the hollows and slopes which are filled with peat or clay a coarse herbage grows, which supports the hardy race of sheep and cattle which feed in summer on this Alpine tract *.

To the south of the Snowdon a ridge branches off on the west side, which at first is called Graig Gôch. It runs nearly due west to the summit of the

* Pennant and Aikin in their Tours; Davies' Agric. Survey.

Bwlch Mawr (1673 feet) to the south-east of Clynnog: hence it extends parallel to the coast, and hardly a mile distant from it, to the Reivel, the highest of whose three summits rises to 1886 feet. By this ridge the long promontory of Lleyn, which extends in a south-west direction to Cape Braich y Pwll, opposite the island of Bardsey, is divided from the plain on the Menai Strait. The surface of this promontory cannot be called mountainous, though a few summits rise to a considerable height, as the Carn Fadrin (1205 feet), and the Mynydd Rhiw (1113). It consists of an uneven rocky plain, here and there intersected by narrow and marshy valleys, and interspersed with conical hills, isolated or in small groups. The coast is bounded by rocks, the continuity of which is broken by several creeks, which afford shelter during storms to boats and small fishing vessels.

The tract of land which extends between the Snowdon range and the Menai, from Aber on the north to Clynnog on the south, is an extensive and tolerably level plain, but not low, the shores of the strait being generally rocky and bold. Its soil is alluvial, consisting of gravel and sand, or shingle; but over it are strewed rounded fragments of rocks, often of considerable size*. The number of rivers which descend from the western declivity of the Snowdon range to the Menai is considerable, but they are generally very short, though the waters of some are copious. The chief are the Seiont, the Gwyrvai, and the Ogwen. The Seiont has its source in a small lake on the north-eastern side of Snowdon, whence it runs in a ravine to the N. W., and in this direction passes through the two beautiful lakes of Llanberris, of which the upper and smaller is about one mile long and half a mile broad, and in some places not less than 140 yards deep; the other is about one mile and a half long, but so narrow as to have the appearance of a river rather than a lake. From the latter the river at first proceeds westward, under the name of Rythol, and afterwards under that of Seiont: it runs S.W. to the Menai at Carnarvon, where its small æstuary forms a commodious harbour. The Gwyrvai rises in a small lake near the place where the Craig Gôch branches off from the Snowdon range, and descends with a rapid course in a narrow ravine towards the north, into Llyn Cwellyn, a lake whose surface is 508 feet above the sea, and which is a mile and a half long and nearly three-quarters of a mile broad. From this point the river runs to the N.W., and gradually turns to the W., till it falls into the Menai, near the south western extremity of the strait. The Ogwen runs out of Llyn Ogwen, a small lake, supplied by a variety of feeders, and situated nearly in the centre of the Snowdon range. Its course is nearly due north, through a deep valley: it falls into the Menai about two miles N.E. of the town of Bangor.

The basin of the river Conway lies to the east of the Snowdon range. Its form is rather unusual, being widest at the sources of the different branches which increase the waters of the Conway, and growing narrower as we proceed towards its mouth. A straight line drawn from the source of the Lledan, which falls into the Upper Conway on the west, to the source of that branch which rises on the east, near Cernioge, measures 15 miles: but every portion of the basin lying farther north is narrower, and near the mouth it does not exceed two miles. The greatest part of this basin lies in the mountain region, of which it drains rather more than one-third. Accordingly, the Conway and all its tributaries run in very narrow valleys, and by far the greatest portion of the basin is filled with high hills and mountains, the level country being limited to the valley of the Conway below Llanrwst, which rarely exceeds a mile or a mile and a half in width. The mountains to the west belong to the Snowdon range, and are higher than those on the east: they rise with a very steep, and frequently almost perpendicular ascent. Some offsets of the Snowdon range advance to the margin of the river: the highest among them is the Shiabod, near the inn at Capel Cerig, 2878 feet above the sea. The mountains which inclose the sources of the southern branches of the river, and divide them from those running to the Dwyryd and Dee, do not rise quite so high. Among them is the Carnedd-y-Filiast, 2127 feet. The hills, which in an uninterrupted line form the eastern boundary of the basin, belong to the Hiraethog Hills: their slope is comparatively gentle and easy *.

* Arthur Aikin's Tour through North Wales.

* Davies's Agric. Survey

The Conway rises in Llyn Conway, situated near the point where the counties of Carnarvon, Denbigh, and Merioneth meet, at a considerable elevation above the level of the sea. Issuing from the lake, it first takes a southerly, and afterwards a north-easterly direction, till it meets the river from Cernioge, from which junction it runs nearly due north to its mouth. The upper part of its course presents a succession of rapids and cataracts; at Llanrwst its course becomes placid, though its current is still swift. Two miles farther down it meets the tide at the village of Trefriew, and so far the river is navigable for small vessels. From Trefriew it winds through the valley to the town of Conway, a little above which its width at high water is about a mile. In its course of upwards of 25 miles its waters are increased by numerous torrents from the Snowdon range, among which the most important are the Ledan and the Llugwy, which run through beautiful valleys, and form, in their descent from the high lands, picturesque waterfalls. Rhaidr y Wennol on the Llugwy, a few miles E. of Capel Cerig, presents a series of beautiful falls.

The Hiraethog Hills run from S.E. to N. W. They begin on the S. with the hills on the N.W. of the town of Corwen, on the banks of the Dee, and extend in an uninterrupted mass along the eastern side of the valley of the Conway to Eglwys Vach, where they suddenly turn to the east, and run along the northern bank of the Elwy to within about three miles of the river Clwyd. The distance in a straight line between Corwen and Eglwys Vach may be 25 miles, and the eastern branch of the hills runs about 6 miles more. The escarpment of the range lies along the river Conway, the eastern descent being gentle, and extending towards the Clwyd in long ridges of hills, separated from one another by narrow but open valleys. These ridges run from five to nine miles from the principal range, and thus these hills cover probably as much space as the Snowdon range; but they hardly rise to half its height: the highest summit, called Modwl Eithin, which is south of the source of the Alwen, is only 1660 feet above the sea. In the ridge north of the Elwy the Moelfre Ucha is 1234, and the Moelfre Isa 1037 feet. But there are some high summits on the ridges branching off to the east, as the Bronbanog, between the Alwen and the Clwyd, 1572; the Moel Twysog, three miles east of Llansannan, 1260, and the Moel Fodiar, a little farther north, 1260 feet. Numerous small torrents run down the western escarpment of the Hiraethog Hills to the Conway; but the hilly country on the east is drained by the Alwen, a tributary of the Dee, and by the Clwyd and the tributaries which join the Clwyd on the west bank. These hills consist chiefly of shale, besides grey mountain rock (W. Davis), or semi-indurated whin; but on the east they come in contact with rocks of limestone, which formation prevails in the hills to the north of the Hiraethog Hills along the sea-shore, from the Great Ormes Head to the neighbourhood of Abergeley, and terminates there with high cliffs *. The promontory of Great Ormes Head, or Llandudno, has no doubt been formerly an island, being at present joined to the main land only by a neck of low marshes. It consists of limestone, very pure and hard, contains copper ore, and rises abruptly to 673 feet above the sea †. The Hiraethog Hills are covered with heath or ling, but the hollows and flats abound with excellent peat.

The Clwyd rises on the N.E. of the Bronbanog, N.W. of Derwen, and runs at first southward, but soon turns, by a bold sweep, to the N.E., passes Derwen, and begins its northern direction about three miles south of Ruthin. Up to Ruthin the valley through which it flows is narrow, but abounds in beautiful scenery. Below Ruthin the river enters the fertile vale of Clwyd, which extends upwards of fifteen miles to the mouth of the river, and presents a pretty level tract from five to seven miles wide. Immediately below St. Asaph's, the Clwyd is joined on the W. by the Elwy, a powerful stream, which, with its tributary Aled, drains nearly the northern half of the Hiraethog Hills. From St. Asaph's, the Clwyd gradually increases in breadth, and enters the fertile and extensive marsh of Rhuddlan, called Morva Rhuddlan. Three miles below Rhuddlan it empties itself into the sea through a small æstuary opening northwards, and forming a port frequented by small coasting vessels. Its course may be about 30 miles, and it is navigable for flat-bottomed boats of about 70 tons burden up to Rhuddlan quay.

* Davies's Agric. Survey.
† Aikin's Tour through North Wales.

The southern extremity of the Hiraethog Hills is contiguous to a range of high hills, which extend from W. to E. along the river Dee and very near its banks, from Corwen in the W. to Trevor and Ruabon on the E., about 12 miles. This range may be considered as an offset of the high mountain region, and itself contains some summits of considerable elevation, as Moel Marfield 1903 feet, Gribin Oernaunt 1796, Cyrn y Brain 1858, and Craig Eglweyseg 1688 feet. It consists chiefly of limestone, and contains coal and iron ore.

The country which lies to the N. of this latter range, between the vale of Clwyd and the plain of Cheshire, consists of two ridges of hills, separated by a deep depression in the form of a longitudinal valley. Both ridges and the intervening valley may extend in breadth from E. to W., on an average six or seven miles, and in length from Gribin Oernaunt to the signal-staff near Gronant, a short distance from the Point of Air, at the outlet of the Dee, about 20 miles. The southern half from Gribin Oernaunt to Moel Arthur lies nearly due S. and N., but the northern declines a little to the W. The southern portion of the valley is drained by the Alyn, which for 10 miles runs northward in a narrow valley, but two or three miles above Mold suddenly turns to the S.S.E., and breaking through the eastern ridge, enters the valley of the Dee and joins that river. The northern half of the valley is drained by two small rivers. The Nannerch breaks through the western ridge and joins the Clwyd. From the northern extremity of both ranges another small river issues, which, winding through the marsh of Rhuddlan, falls into the sea nearly at an equal distance from the mouth of the Clwyd and the Point of Air. The western of the two ridges, which bears the name of the Clwydian range, commences on the north near Dysert, two miles east of Rhuddlan, and its highest summits do not rise to 1000 feet N. of the valley of Nannerch; but south of it they are much loftier, as Pen y Clodiliau 1452, Moel Arthur 1491, Moel Vammau 1845, Moel Venlli 1767, and Rhos yr Aecre 1397 feet. The northern part of the range consists of limestone, rich in ores of lead and zinc; the argillaceous summits of the southern part are abutted by limestone rocks on both sides. The eastern ridge, which may be called the Flintshire Hills, commences on the north at the signal-staff west of Llanasan, which is 732 feet high, and runs at a distance of about four or five miles from the æstuary of the Dee, parallel to it nearly to the place where it is traversed by the Alyn. Its highest summits are Pentre Halkin, to the north of Halkin, which rises to 992 feet, and Moel y Gaer, to the south of Halkin, which rises to 1020 feet. South of the Alyn it stretches due south, and joins the Cyrn y Brain near the source of that river. This portion of the ridge seems to be somewhat higher and much wider: it contains the Fire Beacon, near Trimle Hall, 1270 feet high, and consists of limestone, rich in coal and iron*. From the summit ridge the surface descends in gentle swellings and depressions to the æstuary of the Dee and the valley of that river.

The course of the Dee may be divided into three parts; its upper course in the mountain region, its descent, and its lower course through the plain. The lake of Bala, or Llyn Tegid, the largest lake in Wales, which extends from S.W. to N.E. four miles, with a breadth in the widest part of 1200 yards, may be considered as the source of the Dee. This lake is fed by three torrents, which descend from the neighbouring mountains, and are called Llew, Dee, and Twrch: they unite before they enter the lake†. From the north-eastern corner of the lake the Dee issues as a stream of considerable size and depth, and soon after its waters are increased by those of the Treveryn, which rises farther to the west, near Llyn Conway, or the source of the Conway. After this junction the Dee runs through a fine valley, and before it descends from the mountain region is joined from the north, and on the left bank, by the Alwen, which drains a great portion of the Hiraethog Hills, and rises in the parallel of Ruthin, about eight miles west of that town. The course of the Dee from Llyn Tegid to Corwen may be upwards of ten miles, and it receives in this short distance the drainage of more than one-third of the mountain region, its basin extending from nine to twelve miles and upwards in width. From Corwen to Trevor, a distance of about ten miles, the exceedingly rapid course of the Dee marks its descent from the mountain region: here its basin is only three or

* Davies's Agric. Survey.
† Arthur Aikin's Tour through North Wales.

four miles across. In the plain the Dee runs, with numerous windings, upwards of thirty-five miles to the tideway at Chester, and receives in this course on the right bank the Ceriog from the south, and from the west the Alyn, which latter river, after breaking through the Flintshire Hills, where its surface at the bridge above Mold is 568 feet above the sea, passes through a subterraneous passage for the distance of rather less than a mile, and then enters the plain. At Chester the Dee is about 100 yards wide: from Chester it runs in an artificial channel along the marshes for about nine miles. Near Flint Castle, about three miles farther, it becomes an æstuary three miles wide, which at high water forms a noble arm of the sea, but at its ebb dwindles down into a narrow and insignificant stream, winding its way through extensive dreary wastes of sand and ooze. The main channel then passes to the Cheshire side below Parkgate, and ten miles farther, near the island of Helbree, it enters the sea, the æstuary being there about six miles in breadth. The height of the Dee at Corwen is probably upwards of 506 feet; at Llandysilio 305 feet: at Pontycysyllte 174 feet above the tideway at Chester. In its natural state it is wholly unnavigable, but by means of a weir at Chester the water is held up so as to allow the passage of small boats for two or three miles above Chester*.

The south-eastern boundary of the high mountain region is formed by the Berwyn range, which on the east begins with the hills north of Chirk Castle, near the confluence of the Dee and of the Ceriog, and at first runs due west for about ten miles, to the summit of, the Moel Ferna, four or five miles S.E. of Corwen dividing the basin of the Dee from that of its tributary the Ceriog. In this ridge the highest summits vary from 1000 to 2000 feet in height, the Cefn Ucha attaining 1316, and the Moel Ferna, 2108 feet above the sea. At the Moel Ferna the range declines to the S.W., and continues with a somewhat irregular line in that direction to Cader Idris, about three miles S.E. of Dolgelley on the Wonion, a tributary of the Maw. In this range many summits rise above 2000 feet, Cader Verwyn 2563, Arran Mowddwy 2955, and Cader Idris 2914 feet. At Cader Idris the range divides into two branches, which continue nearly in the same direction, and inclose the basin of the river Dysinwy. The northern, and, as it appears, the lower range, terminates on the shores of the Bay of Cardigan, near the mouth of the Dysinwy, with the Sarn y Bwch, a ridge of huge stones stretching into Cardigan Bay, and covered by the tide, but bare at low water*. The southern ridge rises to more than 2000 feet, and terminates about two miles east of Towyn. A straight line from Moel Ferna to Sarn y Bwch is about 40 miles. The numerous offsets of this range, branching out to the S. and S.E., run for a distance of 15 miles from the principal ridge into the extensive basin of the Severn and its numerous affluents. At the north-eastern extremity the tops of the hills are argillaceous, and their sides in general formed of limestone rocks; in their western progress they become schistose, until they reach Arran Penllyn and Arran Mowddwy, which are conspicuous eminences of the siliceous kind, which species of rocks continues more or less mixed to the termination of the range in the sea. Upon the lower and drier outskirts it is covered with fern and whin, or gorse; upon the loftier summits of clay slate, with heath: rushes and a variety of mosses and Alpine aquatic plants are most common on the humid slopes and hollows †.

The Dysinwy, whose basin is inclosed by the two western branches of the Berwyn Hills, is formed by the waters which flow from the southern and eastern declivities of Cader Idris, and collect in the lake of Talyllin, from which it descends in a narrow valley to the sea, where it forms a small æstuary a little north of Towyn. Its course may be about 15 miles.

The country lying between the southern part of the Snowdon range and the western part of the Berwyn Hills along the Bay of Cardigan presents the most varied surface, perhaps, in all Wales. The hills which line the sea-shore are not of great elevation; but at a distance of about five or six miles from it there is a succession of high hills, or rather mountains, many of which rise to 2000 feet and upwards. The most remarkable are from S. to N.: Craig y Cae 2147 feet, near Llanelltydd, on the river Maw;

* Arthur Aikin in Geol. Trans. First Series, vol. v.

* Davies's Agric. Survey.
† Ibid.

Rhinog Fach 2400 feet; Rhinog Fawr 2463 feet; Craig Drwg 2100 feet. These summits, and some others of equal and even superior elevation, extend between the rivers Maw and Dwyryd. Between the last-mentioned river and the Glasllyn stand the summits of the Moelwyn, 2372 feet, and of the Cnicht, 2272 feet; the latter joins the high hills which inclose the lakes Gwynant and Dinas on the east, whilst on the west the Snowdon range raises its highest summits. The base of these summits between the Maw and the Glasllyn is formed by a continuance of high ground, which is only interrupted by the deep bed of the river Dwyryd, and constitutes the western boundary of the mountain region. The country to the east of it lies very high, which is proved by the rapid course of the rivers that descend from it, and form in their course a continual succession of cataracts and rapids. The narrow valleys through which they run, and the steep and often perpendicular rocks on their sides, partly covered with wood, render this part of Wales exceedingly picturesque.

The waters collected on this portion of the mountain region, which comprehends rather less than one third of the whole, is carried off by three rivers, the Maw, the Dwyryd, and the Glasllyn. The Maw rises not far from the source of the Llew, one of the upper branches of the Dee, and flows first southward and then south-westward to the vicinity of Llanelltydd, where it is joined by the Wonion, which at the confluence is about equal in size to the Maw. The Wonion rises near the source of the Dee, at a place called Drws y Nant; before it joins the Maw it passes by Dolgelley. The united rivers form an æstuary, stretching south-westward until within a short distance of the sea, when it turns westward to Cardigan Bay, forming at its mouth the harbour of Barmouth. It is navigable to within two miles of Dolgelley, and runs about 18 miles. The Dwyryd rises in a small mountain-lake, Llyn y Gamallt, not far from Llyn Conway, and enters the beautiful vale of Festiniog, above the village of that name; but before it leaves the vale it meets the tide, and expands into a broad æstuary called Traeth Bach. Its course is hardly more than 12 miles. The Glasllyn, or Gwyneed, has its source in one of the wildest parts of the Snowdon range, and running in a S.S.W. direction in a narrow ravine, it passes through the mountain-lakes Llyn Gwynant and Llyn y Dinas to the village of Beddgelert, below which it rushes through a vast chasm in the mountains. Its lower course lies through the sands of Traeth Mawr, which once formed its æstuary and are now secured by dikes and inclosed. It falls into the most northern part of Cardigan Bay, a few miles east of Crieceath.

The basins of the rivers Severn and Dyfi lie on the south side of the Berwyn range, and are mostly drained by the rivers which descend from its southern declivities. The larger portion of the drainage runs to the Severn, and descends with it to the plain of Salop; a small part only joins the Dyfi and runs into the Bay of Cardigan. The water-shed between the drainage of both rivers begins on the north in the Berwyn range at Bwlch y Groes, a remarkable mountain pass over this range, situated a few miles east of its highest summit, the Arran Mowddwy, and runs from this point due south, to the lake of Llyn Gwyddior (Llyn Chwidd), and then to the hill near Talerddig, on the road between Carno and Llanbryumair. From this point it declines to the S.W. and joins the Plinlimmon Mountain. In this part the country does not appear to rise to any great height; which circumstance, joined to the advantage afforded by the two wide valleys of the Severn and Dyfi, have rendered it the most common thoroughfare of the country: three roads pass over it: the most northern between Llanerfil and Malwyd, the middle between Carno and Llanbrynmair, and the southern between Llanidloes and Machynlleth.

The basin of the Dyfi, which in width, on an average, extends to 10 miles, is very different from those farther north. The valleys along the rivers are rather wide and fertile, the hills separating them of no great elevation, and of a gentle descent. The river Dyfi, or Dovey, rises upon Arran Mowddwy, and runs first S.E. and then S.W., through a narrow valley, to the small town of Dinasmowddy, where it turns to the south, and thus proceeds through a wider and richer valley, to which it gives name. The southern half of its course is to the S.W., and it discharges its waters into the sea by a broad æstuary at Aberdyfi. The whole course of the river may be about 30 miles.

The western and north-western part of the mountains of North Wales is of the primitive siliceous formation, rugged,

steep, and barren. Its eastern boundary may with tolerable precision be marked by a line beginning at the æstuary of the Dyfi, following that river up to its source near Arran Mowddwy, and then the Twrch from its source to Llyn Tegid, and hence the Dee to its confluence with the Treweryn. From the mouth of this river it runs to its head in Llyn Treweryn, whence it passes to Llyn Conway, and follows the course of this river through the vale of Llanrwst to its æstuary near Great Ormes Head. The hills and mountains lying eastward of this line, and south of the Berwyn range, consist chiefly of a homogeneous shale, which becomes friable in the air; but on the northern side of the Vyrnwy the shale passes into a grey, semi-indurated mountain rock (W. Davies), and on the Berwyn range into argillaceous schistus, which extends over the remainder of the hills, excepting the eastern and northern outskirts, which abound with calcareous rocks, freestone and chert*.

The Severn and its Basin.

The basin of the Severn is the greatest in England, except those of the Humber and the Thames. It may be divided into two parts, the northern and the southern, the boundary between them being formed by the limestone ridge of Wenlock Edge, which traverses the basin at Coalport, two miles below Coalbrook Dale. The northern part comprehends that part of Wales which is drained by the river and its numerous affluents, and also the whole plain of Salop. It extends from N. to S. from 20 to 30 miles, and from W. to E. upwards of 45 miles, of which surface nearly one-half lies in the mountains between the Berwyn Hills and the Plinlimmon range. South of Wenlock Edge the average breadth of the basin is about 30 miles from W. to E., except where it is enlarged by the basin of the Avon, which stretches eastward into the central parts of England, and terminates near the sources of the Welland, a river which belongs to the drainage of the Wash, and by that of the Teme. In length this part of the basin extends from N. to S. upwards of 70 miles.

That portion of the basin which lies within the mountains of Wales ought rather to be called hilly than mountainous. None of the eminences rise above 1500 feet except Cyrn Moelfre, W. of Oswestry, which attains 1714 feet. The most remarkable besides this are the Carno Hills, N.E. of Carno (1490 feet), and some eminences between the Rhew and the Vyrnwy. But it appears that these hills, though numerous, do not form continuous chains, but rise in single and separate summits, and in general are of very easy ascent.

The Severn rises on the western descent of Plinlimmon from two sources. The southern, called the Havren, originates in a chalybeate spring about a mile from the source of the Wye, whence, as a mountain-torrent, it descends eastward to the town of Llanidloes, traversing a narrow valley called Glyn Havren. At Llanidloes it is joined by the other branch, the Clewedog, which originates about a mile farther to the north, and runs with equal rapidity through a narrow valley. At Llanidloes the united river assumes the name of Severn, and becomes a comparatively quiet river. It runs from Llanidloes in a valley a mile and more wide, in a general north-eastern direction, till it enters the plain of Salop. From Llanidloes to Newton it has several rapids, but no perpendicular fall*. It does not become navigable till it reaches Pool Quay, about 20 miles below Newton. In Wales the Severn receives many considerable tributaries; the Tirannon, the Rhow, and more especially the united rivers of the Vyrnwy and Tanat. The Vyrnwy is formed of two branches, of which the southern rises in the ridge which connects the Plinlimmon with the Berwyn range in the vicinity of Bwlch y Fedwin, and flows eastward to Llanfair, below which town it suddenly turns to the N.E. and N., and meets the other branch, which originates in the Berwyn Hills to the N.E. of Bwlch y Groes, and descending, with many windings, in a south-eastern direction, meets the former below Matraval. After this junction the river is called Vyrnwy, and pursues a north-eastern course till it comes near the borders of Wales, when it turns to the east, and soon afterwards joins the Tanat. This tributary of the Vyrnwy rises in the Berwyn range, and runs a nearly due E. course, receiving at Llanrhaidr the torrent Rhaidr, noted for the waterfall of Pistyll Rhaidr: but towards its confluence with the Vyrnwy it turns southwards, and joins it two miles W. of Llanymynech. Five or six

* Davies's Agric. Survey of North Wales.

* Arthur Aikin, Geol. Trans., First Series, vol. v.

miles below the last-mentioned town the Vyrnwy falls into the Severn, after a course of upwards of 30 miles. This river is navigable during several of the winter months as high as Llanymynech. The junction of the Severn and Vyrnwy takes place in the plain of Salop, in which the Severn pursues an eastern and very winding course to Shrewsbury, and then, declining a little to the S., enters the limestone hills of Wenlock Edge, changing at the same time its course into one nearly due S. In the plain of Salop its waters are increased by those of the Tern, which rises in Staffordshire, near the sources of the Sow (an affluent of the Trent), enters the plain of Salop, and pursues a southerly course of nearly 30 miles. The Tern joins the Severn on the left bank a mile above Wroxeter. South of the plain of Salop the Severn is joined by the Stour, the Teme, and the Avon. The Stour rises in the hills N. of Wolverhampton, two or three miles from that town, and after flowing 27 or 28 miles in a direction nearly due S., it joins the Severn on the left bank at Stourport. Its source is 294 feet higher than the point of junction with the Severn.

The Teme rises in the Kerry Hills, which belong to the Plinlimmon range, about four miles S. of Newton on the Severn, and runs in a S.E. direction to Knighton, from which point it declines to the E., until it is joined at Bromfield, three miles below Ludlow, by the Onny. This tributary of the Teme rises in Corndon Marsh, about four miles E. of Montgomery, at an elevation of from 900 to 1000 feet above the sea: after a course of five or six miles it reaches the village of Moor, 730 feet above the sea, situated in the valley in which Montgomery and Bishopscastle are built, and which forms an oblique connexion between the valley of the Teme and that of the Severn in Wales. From Moor the ground slopes so equally E. and W. that the very uncommon circumstance here occurs of the stream dividing itself; that portion which goes off to the W. being joined by another stream, forms the river Camlet, which, after an indirect and circuitous course of about 17 miles, falls into the Severn above Forden; while the eastern branch forms the Onny, which, after a course of about 18 miles, joins the Teme. From this junction the Teme resumes its south-eastern course, and after numerous windings falls into the Severn about two miles below Worcester, after a course of about 60 miles. From its junction with the Onny to its mouth, a distance of nearly 42 miles, it falls 367 feet. The great quickness of its descent, its numerous rapids, rocky ledges, and deep pools, prevent it from being navigable *.

The Avon rises in the village of Naseby, in Northamptonshire, and pursues first a W. and then a S.W. course to the walls of Warwick Castle: from Warwick to Stratford it has a winding course, and so on to Evesham, where it makes a considerable bend. About two miles below Stratford it is joined on the left bank by the Stour: and a few miles below the junction of the Stour, the Arrow, which comes from the N., and passes Alcester, joins it on the right bank. From Evesham to Pershore it runs nearly due W., and hence to its junction with the Severn near Tewkesbury has a southerly and winding course, leaving Breedon Hill one mile to the left. This river runs nearly 100 miles, and therefore belongs to the large streams of England. Its banks are generally not high, and the larger part of its valley is a tolerably level country, bounded by higher land of small elevation. A canal running N. from Stratford joins the Worcester and Birmingham Canal, and thus connects the navigation of the Avon with that of the basin of the Trent. Another canal connects Warwick with Birmingham; and the upper valley of the Avon is also connected by a canal with the Soar of Leicester, and the basins of the Wash and the Thames.

The Severn, after its junction with the Avon, runs in a winding course S.S.W. to Gloucester, where it meets the tidewater, which here, according to accurate measurements, rises about 16 feet higher than at Chester, which is to be attributed to the peculiar form of the Bristol Channel, and the well-known extraordinary height of its tides. Below Gloucester the river increases in breadth, and before it reaches Newnham expands into an æstuary, which gradually grows wider, until it is narrowed by the tongue of land which separates the mouth of the Wye from that of the Severn. Here it may be considered as mingling its waters with the Bristol Channel.

The Severn runs 150 miles from

* Arthur Aikin, in Geol. Trans., First Series, vol. v.

Llanidloes to the tideway at Gloucester. If 30 miles are added for its course to the mouth, and 10 more for the Havren, the whole course of the river amounts to 190 miles. Its fall above Newton is not known.

	Feet.	In.
From Newton to Pool Quay, about 20 miles, the Severn falls	220	0
From Pool Quay to Bagley Brook, near Shrewsbury, at the commencement of the Ellesmere canal, about 26 miles	96	0
From Bagley Brook to Coalport, 21 miles	50	0
From Coalport to Bridgenorth, 7 miles	14	6
From Bridgenorth to Stourport, 18 miles	41	9
From Stourport to Worcester, 12 miles	23	0
From Worcester to tideway, 30 miles	10	0
	455	3

Along the banks of the Severn two coal-fields of considerable extent occur. The northern is the coal and iron district of Coalbrook Dale. It commences on the south-western side of the Severn, near the northern extremity of the Wenlock Edge, and passing the river in a north-eastern direction, terminates in the neighbourhood of Lilleshall, extending in that direction upwards of six miles. Its width varies from upwards of half a mile at its south-western extremity to more than two miles between Wellington and Shifnal. Insulated coal-measures are found at some distance from the field in the Clee Hills, as well as near Oswestry *.

At a short distance from the æstuary of the Severn is the coal-basin of Dean Forest. It occupies an irregular elliptical area, circumscribed by the triangle formed by the Wye, the Severn, and the road from Gloucester to Ross, the longer axis from N. to S. being about ten miles in length, and the transverse from E. to W. about six †.

The area drained by the Severn and its tributaries comprehends nearly all Shropshire and Worcestershire, besides about two-thirds of Montgomeryshire, Warwickshire, and Gloucestershire, and small portions of Staffordshire, Leicestershire, Northamptonshire, Radnorshire, and Herefordshire, and extends over a space which probably falls not much short of 4500 square miles.

The Mountains of South Wales.

The mountains which inclose the upper basin of the Severn on the S., and take the name of the Plinlimmon range, from the highest of their summits, commence on the E. not far from the confluence of the Severn and its tributary the Vyrnwy, at the Breddin Hill, which rises on the boundary of Montgomery and Shropshire, on the W. side of the plain of Salop. From this point they extend S.W., comprehending the Long Mountain, to near Montgomery Castle, where they begin to decline more to the W.: the mountain line is continued along the Kerry Hills, whose summit here forms the boundary of North and South Wales, to the Llandinam Mountains. They terminate on the W. with the extensive mass of the Plinlimmon, beyond the sources of the Havren (Severn), and of the Wye. The two extremities of this range are 37 miles distant; but the line of the watershed curving towards the S. forms an arc of a circle 49 miles in length *. This range contains two remarkable depressions in its eastern part. The first is a narrow winding valley, which connects the vale of the upper Severn with the plain of Salop, by separating the group of the Breddin Hills from the Long Mountain. The Breddin Hills form a separated mass of rocks, with three elevated summits, Breddin Hill (959 feet) with Rodney's monument upon it; Moel y Golva (1199 feet); and Cefn y Castell. The northern and western sides of this mass are in many places nearly perpendicular, and in some parts the summit overhangs its base; and even on the southern and eastern sides the ascent is very difficult †. It is chiefly composed of a greenish serpentine ‡.

The Long Mountain forms likewise a separate mass, being divided from the remainder of the range by the valley in which Montgomery and Bishopscastle stand, and through which the Camlet and the Onny descend. This range occupies nearly 10 miles in length, but its breadth is inconsiderable. Towards

* Plumley's Agric. Survey of Shropshire.
† Buckland, Geol. Trans., Second Series, vol. I.

* W. Davies's Agric. Survey
† Arthur Aikin's Tour
W. Davies's Agric. Survey

the vale of the upper Severn and Montgomery it presents almost one continued range, and descends with a steep escarpment: on the E. it sinks gradually into the plain, its continuity being frequently broken, and presenting detached hills *. It rises in some parts to 1330 feet above the sea.

The remainder of the Plinlimmon range seems to have no other interruption, but to extend, with a well-marked continuity, to Plinlimmon itself. Its escarpment lies towards the vale of the Severn, being backed on the S by an elevated and mountainous country, which in some places does not seem to sink considerably below the average height of this range. The highest measured summit, besides Plinlimmon itself, is to the S W. of Newton on the Severn, called Llandinam Mountain, which attains 1898 feet. The Plinlimmon, or rather Plinlimmon, is an extensive mountain with three summits, the highest of which rises to 2463 feet. It is surrounded on all sides by several other smaller elevations, of which that to the N.E., called Moel Fadin, is 1864 feet above the sea.

Shale seems to be the chief component of the whole range, though in some places beds of more compact and more regularly stratified rocks occur. It contains no metallic ores, with the exception of small quantities of cobalt and lead, not sufficient to pay the expenses of working. The range presents a great regularity in its outline its surface consisting of a succession of gradual slopes and rounded summits. It is uniformly covered with herbage, which supports numerous flocks of small fine-woolled sheep †.

To the S.E. of the Plinlimmon extends a vast mountain tract of a very desolate character. Its western boundary would be marked with tolerable accuracy by a line drawn due south from the western summit of Plinlimmon Mountain to Tregaron Mountain (1747 feet), and thence S.W. to the western extremity of the road between Llandovery on the Towey to Lampeter on the Teify. The last-mentioned road, up to the point where it touches the river Towey, may be considered as the western part of its southern boundary. From this point eastward the boundary is formed by the Mynydd Epynt, or Epynt Hills, which, commencing a few miles N.E. of Llandovery, extend with a tolerably uniform outline, and in a direction from W. to E., to Llyswen, on the banks of the Wye. On the E. this mountain tract is bounded by the course of the Wye from Llyswen on the S. to Llangerrig on the N. The curved part of the Plinlimmon range W of the mountain road between Llangerrig and Llanidloes to the Plinlimmon Mountain itself constitutes its northern boundary.

This region, which is doubtless the most extensive waste in Wales, and resembles more than any other portion of the island the rocky country of the Northern Highlands in Sutherland and Ross-shire, presents no regular chains, but a succession of rounded hills and depressions, the surface of which is covered with mosses and peat resting upon clay. The clay being impenetrable to the water, and the peat absorbing a great quantity of it, the moisture which descends on these hills is hindered from forming watercourses, and excavating regular ravines and glens. The number of such ravines or watercourses is consequently very small. Some parts of its surface are covered by extensive bogs, as, for instance, that called Cors Gôch ar Teify, which extends from Tregaron to Strata Florida, five miles in length, its mean breadth being about one and a half: the river Teify, not far from its source, winds through it. Among the peat and the bogs are scattered tracts of pasture land, covered with very poor herbage, which affords summer pasture for large numbers of small hardy sheep *. These pastures, and the peat which serves as fuel, are nearly the only profit which can be gained from this mountain region, it being entirely destitute of mineral riches, except a little lead, and composed chiefly of slate, or rather shale. The highest summit of this region is the Drugarn, 2071 feet above the sea, which occupies nearly the middle of it. Tregaron Mountain, towards the western boundary, rises to 1747 feet.

The Mynydd Epynt, or Epynt Hills, which constitute the southern boundary of the mountain tract, are of a different description, being composed of old red sandstone. This change in the geological constitution of the country takes place along a line drawn from the banks

* Arthur Aikin's Tour.
† W. Davies's Agric. Survey.

* Malkin's Scenery, &c.: Jones's History of Brecknockshire.

of the Wye below the influx of the Edwy, about five miles S. of Builth, and running across the Epynt Hills to Cwm y Dwr, on the road between Trecastle on the Usk and Llandovery, on the boundary of Carmarthenshire. The numerous rivers originating on the Epynt Hills collect at the foot of their northern declivities, and form the Irvon, a tributary of the Wye, whilst those descending to the south increase the waters of the Usk. This range is everywhere covered with vegetation, and is much superior in fertility to that farther to the north; its valleys also contain many small strips of land capable of being cultivated.

The country which extends on the west of this mountain tract to Cardigan Bay, between the wide valleys of the Dyfi and that of the Teify, presents a varying character in its different parts. The northern districts between the Dyfi and the Ystwith are extremely rugged and uneven, presenting narrow chains with craggy summits and steep declivities, and divided from one another only by narrow ravines and closed valleys. The rivers being full of rapids and cataracts, and the slopes of the hills well wooded, this part of Wales contains numerous picturesque views. Along the coast the hills are low. The country south of the Ystwith partakes more of the surface and sterility of the tract farther east. It stretches out into extensive table-lands, intersected by several hills, and broken by numerous watercourses. Their surface is destitute of wood and covered with a scanty vegetation. These table-lands extend even between the Ayron river and the Teify, S. W. of Ystrad, to within a few miles N.E. of Newcastle Emlyn on the Teify. Talsarn Hill, N.E. of Ystrad, rises to 1143 feet, and Capel Cynon, or Pans y Gutch, N.E. of Newcastle Emlyn, to 1046 feet.

The whole coast of Cardigan Bay, from the mouth of the Dyfi to that of the Teify, is of considerable elevation, excepting only near the mouths of the rivers where the vales descend to the shore. The rock on which the castle of Aberystwith stands is 496 feet above the level of the sea.

The country to the east of the central mountain tract is likewise hilly, but its valleys are wide, the declivities of the hills gentle, and the summits broad. A large part of this country is fit for agricultural purposes *. Few of the hills rise to a considerable height: the most elevated in Radnor Forest attains 2163 feet.

The rivers which descend from the mountain region about the Plinlimmon to Cardigan Bay have short courses, but are commonly characterized by a rich and bold scenery. Such is particularly the case with the Rheidiol or Rheidol, which rises in a small lake called Llygad Rheidiol (the eye of the Rheidiol), on the N.W. side of the Plinlimmon Mountains, at no great distance from the sources of the Severn, and descends southward along their western side in a deep and narrow ravine. This river becomes highly picturesque at Yspytty Caen Vaen, at a short distance below which place it receives the waters of the Mynach, a mountain torrent exhibiting grand scenery at the Devil's Bridge, a little above its junction with the Rheidiol. At the conflux with the Mynach, the Rheidiol turns to the west, and continues in that direction to Cardigan Bay, which it reaches at Aberystwith, about a mile from the mouth of the Ystwith, after a course of about 20 miles.

The Ystwith rises in the mountain tract south of the Plinlimmon Mountains, and rushes in an impetuous torrent first S. and then W. through a deep precipitous channel to the neighbourhood of Hafod, whence it flows through a more level country to Cardigan Bay, into which it discharges its waters, after a course of about 22 miles.

The Teify, the largest river which falls into Cardigan Bay, rises in Llyn Teify, the largest of that cluster of seven lakes, into which the water collects from the neighbouring hills. Issuing from the lake as an insignificant stream, it flows immediately south-westward over a rocky bed to the vicinity of the ruined abbey of Strata Florida, whence, crossing the extensive bog of Cors Gôch ar Teify in a western direction, it enters deep defiles, through which the greater part of its course lies to the S.W., as far as Lampeter. Below Lampeter its course gradually declines to the W., in which direction it continues to a few miles from its mouth, where it changes to the N.W., and reaches Cardigan, below which town it enters the sea by a wide æstuary. Its course is about 53 miles, and it is navigable for vessels of rather more than 200 tons burden to Cardigan bridge, and for barges to Llechrhyd bridge, to which place the tide ascends. The farther

* Malkin's Scenery, &c.

navigation is impeded by the ledge of rocks which forms the Cenarth Falls, between Llechrhyd Bridge and Newcastle Emlyn.

The eastern and larger portion of the above described mountain district is almost entirely drained by the Wye and its numerous tributaries. The Wye, which probably surpasses all the rivers of the island in picturesque scenery, rises on the south-eastern declivities of the Plinlimmon Mountain, about a mile S. of the source of the Havren or Severn. It runs first E S.E. to Llangerrig about ten miles, and then to Rhayader, nearly the same distance, with an impetuous and turbulent course, over a rocky bed, and in a narrow valley between mountains destitute of trees, and covered with mosses and peat. So far it displays very little of that beauty which marks its lower course. Below Rhayader, where the scenery begins to be interesting, it receives on the right bank the waters of the Elan, which originates near the summit of the mountains a little S. of Cwn Ystwith, on the Ystwith, and after a course of about fifteen miles to the S.E., through a desolate country, meets the Clarwen, which traverses a similar district: the united river turns to the E.N.E., and joins the Wye a little farther down. In its progress to the S.E. the Wye is joined on the left bank, about five miles above Builth, by the Ithon, and just above the town of Builth by the Irvon on the right. The Ithon rises in the Kerry Hills, not far from the source of the Teme, and descending southward with numerous windings, receives the waters of many rivers and rivulets, and drains a country of great extent. At Cefn Llys it makes a bold sweep, turning to the N. and afterwards to the W.; but from Llanbadarn Fawr it flows again nearly S. to its junction with the Wye near Dissert. It runs about twenty-five miles through a much-diversified but not picturesque country. The Irvon, which drains the country to the N. of the Mynydd Epynt, rises in the desolate country W. of Drugarn Hill, and continues its upper and southern course through a similar country, but declining to the E. and N.E. it enters a wider valley, which displays some fine scenery.

Below Builth, where the Wye enters the red sandstone region, this river begins to display all its beauty. Flowing in a fine valley, with a flat in general sufficiently wide for all purposes of utility and comfort, between ranges of wooded hills, it sometimes presents a rapid and foaming current; and at other times a deep, dark pool, with scarcely any appearance of motion on its surface. The small tributaries which increase its waters in this tract partake of its beauties, more especially the Edwy, which joins it on the left bank, about five miles below Builth*. At Llyswen the Wye begins gradually to bend to the E. and N.E., and below Hay to the N.: but before it reaches Whitney it turns to the E., and, leaving the mountains of Wales, runs through an undulating country to Hereford, in which course it displays a less bold, but a milder and extremely pleasing appearance, characterized by delightful reaches, with the most luxurious landscapes on their sides. A few miles below Hereford the Wye is joined on the left bank by the Lug, or Lugwy. This tributary of the Wye originates in two sources, on the north and south of Radnor Forest. The northern, or the Lug, joins the southern, or the Endwoll, below Presteigne, after a course of upwards of ten miles. The united river pursues its E.N.E. course for some miles more, and then turns to the S.E. Passing Leominster, it declines to the S., in which direction it runs to the Wye, at the village of Mordiford, after a course of upwards of forty miles.

Below Hereford the scenery along the Wye becomes bolder and more romantic, its course being exceedingly sinuous, and its banks generally lofty and much diversified with woods and projecting rocks. At Monmouth (Munnowmouth) it receives the Munnow, which rises on the Herefordshire side of the Black Forest, or Hatterel Hills, and runs nearly due S. between high hills for ten miles; then for about four miles N.E. to Kent Church, and hence to Monmouth S.E. The whole course of this river may amount to nearly thirty miles.

The Wye terminates its course of about 120 miles below Chepstow, in the Bristol Channel. It is navigable for large vessels only to Chepstow Bridge, and for barges of from eighteen to thirty tons burden as high as Hereford; but this navigation is frequently interrupted by the scarcity of water, or by the violence of the current, when swelled by the mountain-torrents, which is often so strong as to occasion great alterations in the bed of the river, and sometimes even to form new channels. The spring-

* Malkin's Scenery, &c., of South Wales.

tides at Chepstow frequently rise above 50 feet.

The southern declivities of the Epynt Hills form long narrow ridges, which are separated from one another by valleys of a similar description, and terminate at a short distance from the banks of the river Usk, and on the Wye near Llyswen. The country lying between the last-mentioned place and the town of Brecknock, separating the valleys of the Wye and the Usk, cannot be called mountainous, when compared with the heights which inclose it on all sides. It is, however, a hilly country; but the eminences that cover it in all directions without forming a chain, do not rise to any considerable height, and are separated by considerable and wide depressions. This hilly tract extends along the course of the Wye from Llyswen to a point a few miles E. of Glasbury; but along the course of the Usk it extends several miles from Brecknock to Llansaintfraed. In the southern part of this hilly plain is Llyn Safaddan, or Savaddon, called also Brecknockmere, the largest lake in South Wales, which is three miles long and about a mile broad where widest, and in some places from twelve to fifteen yards deep, though its general depth does not exceed three or four yards. It is distinguished from the mountain lakes of Wales by being situated rather in a low country, and not having hills of considerable height on any side: it terminates on the S., in a low, marshy ground, overgrown with rushes and other aquatic plants.

To the E. of this hilly plain the hills rise into mountains, and this mountain-tract is called the Black Forest, or Mynydd y Cader. It begins in the N., near Talgarth, and extends southward to the neighbourhood of Crickhowel, on the Usk. Some of its eastern branches enter Herefordshire, where they are called the Hatteroll Hills, and accompany the course of the Munnow to the neighbourhood of Kent Church. This mountain tract, which is connected by the above-mentioned hilly plain with the mountains of Wales, and on the other sides is inclosed by the vales of the Wye and Usk, has some summits which rise to a considerable height—Pen y Cader Fawr, situated near the centre of it, is higher than the Plinlimmon, being 2545 feet above the sea. The Sugar Loaf, to the E. of Crickhowel and the N. of Abergavenny, is 1760 feet high*.

The valley of the Usk forms a considerable and extensive depression in the red sandstone hills which cover this part of South Wales; but to the S. of this valley the mountains rise again to a still greater height. They here form a long chain, beginning on the W., near Llandybie, some miles S of Llandeilo Fawr, on the Towy, and extending eastward to the Mynydd Llangynidr, which terminates in Monmouthshire, near Abergavenny, with the Blawrange Hills. This chain is, at least through a considerable part of its extent, called Black Mountain, and in the Ordnance maps, Forest Fawr. The whole of this range, except its eastern extremity, belongs to the red sandstone formation; and though in many parts the mountains are too elevated, steep, and rocky for cultivation, they are generally covered with vegetation, except only such slopes as are scarped, and they afford good sheepwalks. The highest mountains of South Wales are in this range. The Bannau Sir Gaer, or the Carmarthenshire Beacons, are two peaks, separated by a deep and narrow chasm, of which the western belongs to Carmarthenshire, and the eastern to Brecknockshire. The latter is the higher, and rises to 2596 feet. It is sometimes called Trecastle Beacon, from a village of that name situated some miles to the N.E. The summit of the Y Fan Gihirach, on the southern declivities of which the Nedd Vechan (Little Ned) takes its rise, is 2391 feet high. But the most elevated summits of the chain, and the highest points of South Wales, are two contiguous peaks, about five miles S.W. of the town of Brecknock, and called Bannau Brecheiniog, or the Brecknockshire Beacons, also sometimes Cadar Arthur, or Arthur's Chair. They rise to 2862 feet above the level of the sea.

The eastern part of this range, the Mynydd Llangynidr, consists of limestone, and lofty rocks of that composition form the steep declivity along the southern bank of the Usk, between Llangynidr and Abergavenny. The limestone rocks extend hence westward along the whole range of the Forest Fawr, forming its southern declivity, in the latitude of Glyn Collwyn. But southward of this line a considerable depression occurs in the surface of the country, the lowest part of which is distinctly marked by the places where the rivers Taff and Neith, descending in long transverse valleys from the Forest

* Jones's History of Brecknockshire.

Fawr, begin to diverge in their courses, and is indicated by the road between Merthyr Tydvill and Aberpergwny. This limestone tract is much inferior in fertility to the red sandstone formation, being rendered very arid by its elevation, especially on the northern side, by its want of depth of soil, and by the absorbent qualities of its substratum.*

This remarkable depression just mentioned, which may be traced eastward of Merthyr Tydvil to the Rumney, at Rumney Bridge, and even to the plain of Monmouthshire S.E. of Abergavenny, and westward from Aberpergwny on the Neath to Ystradgynlais, on the Tawe, does not present a level or even slightly undulating country, but is covered with a succession of hills and valleys. The hills, however, do not rise so high as the mountains of Glamorgan, which are separated by them from the still higher summits of the Forest Fawr. The mountains of Glamorgan do not constitute, like the Plinlimmon range, the Epynt Hills, and the Forest Fawr, a continual chain running E. and W., but they present numerous ridges stretching out in every direction, though in the eastern districts, eastward of the Taff, their general direction is from N.W. to S.E. This mountain-system is on the N. bounded by the above-mentioned depression, extending from Ystradgynlais to Abergavenny; on the east it extends its offsets nearly to the Glamorgan and Brecknock Canal at Pontypool, and hence to Rupperah, on the Rumney and the boundary between Monmouthshire and Glamorganshire. From this point the southern edge runs to Castle Coch, Llantrissent, Margam, on the E. side of Swansea Bay, and hence it follows the coast at a short distance to the valley of the Tawe, where it terminates with the Mynydd Druman, above Llansaunlet. The chain which extends from the Mynydd Druman to Ystradgynlais constitutes the western boundary of this system, which extends in its whole length from E. to W., from Pontypool to Mynydd Druman, upwards of thirty-six miles, and in breadth from N to S. from the neighbourhood of Merthyr Tydvill to Llantrissant, nearly fifteen miles.

This mountain-tract, though it nowhere rises to such an elevation as those farther to the north, presents a much more mountainous aspect, on account of the steepness of its declivities, the narrowness of its valleys, and the pointed peaks and narrow ridges with which the upper parts are crowned. It includes the eastern, most extensive and richest portion of the coal and iron basin of South Wales. The soil upon these hills is partly of a moist nature, covered with peat, and partly dry, with some poor herbage. It lies upon strata of stone, under which the beds of iron and coal extend. The highest summits occur in the ridge, called Mynydd Llangeinor, which extends from Llangeinor, northward to the northern boundary of the mountain-tract. The peaks west of the village of Ystrady-fodwg rise to 1858 feet above the sea.

Between the southern edge of this mountain-tract and the Bristol Channel extends the Vale, or rather Plain of Glamorgan. It is, indeed, an undulating plain, intersected by numerous gentle hills and ridges of small elevation: but this plain is in some places cut by abrupt depressions, which though not generally deep, have their ascents and descents as perpendicular as the side of a crag.† The whole coast, from Swansea Bay to the mouth of the Taff, is formed by calcareous rocks, which, for the most part, rise to 100 feet above high-water mark. Limestone is the principal component of its soil, and to this, in part, its comparatively great fertility may be attributed.

The plain of Monmouthshire extends to the E. of the mountain-tract from the neighbourhood of Pontypool to the banks of the Wye and the hills of Dean Forest. Its southern boundary is formed by the hills of Penca-Mawr, which begin a short distance S. of the town of Monmouth, nearly opposite the hills of Dean Forest, and extend south-westward to near Newport on the Usk, with a curvature to the S.E., and rise perhaps in some parts to 1000 feet. To the S. of this ridge, and of the south-eastern extremity of the mountains of Glamorgan, extends a flat, low country along the coast, and two or three miles inland, between the mouths of the rivers Taff and Wye; that portion of it westward of the Usk is called Wenloog Level, and the eastern between the Usk and the Wye, Caldicott Level. These levels constitute a very fertile tract, which is separated from the sea by embankments of great extent, raised for the purpose of keeping out the sea-water at high tides and in stormy weather.‡

* Malkin's Survey of the Scenery, &c., of South Wales. Buckland, in Geol. Transact, 2d ser. 1.
† Buckland, in Geol. Trans., 2d Series, vol. i.
‡ Kassali's Agric. Survey.

All the considerable rivers which drain this region rise on the southern declivities of the Forest Fawr, with the exception of the Usk, which carries off the waters from the southern declivities of the Epynt hills, and those originating on the northern side of the Forest Fawr. The Usk rises in a lake, upwards of a mile in length, and situated on the northern slope of the Bannau Sir Gaer, or Carmarthenshire Beacons. Issuing from this lake, which is called Llyn y Van, the Usk runs for a few miles northward, and then suddenly turns to the E., in which direction it continues as far as the town of Brecknock, in a valley which gradually grows wider and more fertile. It receives in this distance the waters of numerous tributaries from the Forest Fawr, among which the most considerable is the Tarrel, from the Bannau Brechiniog; and still more from the Epynt Hills, among which are the Nant Bran, the Ysgir, and the Honddu, which latter joins it at the town of Brecknock. Below Brecknock the Usk declines to the S.E., and runs in that direction past Crickhowel to Abergavenny, within which limits its valley is considerably narrowed by the Black Mountains and the Mynydd Llangynidr, and it is not joined by any considerable tributary, except the Grwyne, which falls into it two miles below Crickhowel, and brings down the drainage of by far the greatest part of the Black Mountains. Below Abergavenny the Usk flows through the undulating plain of Monmouthshire between lofty hills, without being joined by any considerable river, except the Ebwy, which falls into the æstuary of the Usk. The Ebwy rises in the Mynydd Llangynidr, and flows nearly S. through the wild valley of the Ebwy, until, where it leaves the mountains, it is joined by another stream of a similar character, which flows through a similar valley, the Sorwy. After this junction, the Ebwy flows through the plain, and terminates its course of about twenty-five miles. The Usk, when swollen by floods, is extremely impetuous: it is navigable for coasting vessels up to Newport, and for barges as high as Tredunnock Bridge. It's whole course is upwards of sixty miles.

The Rumney rises in the Mynydd Llangynidr, and runs along the boundary of Glamorganshire and Monmouthshire, first southward as far as Pwll-y-Pant, then eastward for some miles, when leaving the hilly country by a bold sweep to the south, it empties itself into the Bristol Channel below the village of Rumney, after a course of about thirty-six miles.

The Taff is formed by two streams, called Taff Fawr (Great Taff) and Taff Fechan (Little Taff), which rise on the upper declivities of the Bannau Brecheiniog, and descend in a turbulent and precipitous course, till they unite about a mile N. of Merthyr Tydvil. From this place the river runs in the same direction S.S.W. through the mountains of Glamorgan, in a very fine but narrow valley, and is increased by numerous tributaries, among which the Cynon, which drains the beautiful vale of Aberdare, and the Rontha, which drains that of Ystradyfodwy, one of the most romantic districts in this part of Wales, are the most remarkable. Below Castle Coch the Taff enters the Vale of Glamorgan, and passing by the towns of Llandaff and Cardiff, enters the small bay of Penarth, after a course of nearly forty miles. It is navigable for small craft as far as Cardiff, to which town the tide-water ascends.

A comparison of the Monmouthshire and Brecknock canal with the Glamorganshire canal shows the sudden rise of the country in this part of the island. The first begins in the Usk, not far below the town of Newport, and runs on the same level to Malpas, whence it ascends in a direction parallel to the river Avon by Pontypool to Pontnewydd, a distance of about twelve miles and a half, in which it rises 447 feet. At Pontypool, where the canal is 352 feet above the level of the sea, the Brecknock canal branches off, and continues on the same level to Abergavenny, and even a few miles farther: it then runs to the town of Brecknock, rising gradually with an ascent of 68 feet. Brecknock consequently is 420 feet above the sea, and 27 feet lower than Pontnewydd. The Glamorganshire canal commences at a place called the Lower Layer, a mile and a half below Cardiff, on the E. side of the Taff, and near its entrance into Penarth harbour. It runs along the Taff to Merthyr Tydvil, where it attains a height of 611 feet above the level of the sea; so that the last-named town is 191 feet more elevated than the town of Brecknock, though the latter is situated about one-third farther from the Bristol Channel *.

* Priestley's Historical Account of the Navigable Rivers, &c.

The Neath, or Nedd, is formed by the confluence of several mountain-streams, which rise in the Forest Fawr, W. of the Bannau Brecheiniog and the southern declivity of Y Fan Gihirach. The most remarkable are the Hepste, the Meltau, and the Nedd Vechan, or Fychan, called also Purthin, all of them containing cataracts and fine scenery on their banks. The second has a passage underground. These branches unite above, or at Pont Nedd Fychan, and hence the Neath flows in a very fine valley S.W. to the town of Neath and Briton Ferry, where it enters Swansea Bay, after a course of above thirty miles. This river is navigable for ships of about 200 tons burden as high as Neath Bridge.

The Tawe has its double source near the lofty summits of Bannau Sir Gaer, within a short distance of that of the Usk, and descends nearly due S. to Pont Rhyd Arw, where it turns nearly due W.; but after flowing in that direction a few miles, it declines to the S.W., and is joined by some mountain-torrents which descend due S. from the range extending westward of its sources. Pursuing its course in the same direction, it enters Swansea Bay below the town of Swansea, which is called by the Welsh Aber-Tawe, the mouth of the Tawe. This river admits ships of considerable burden for about two miles above its mouth, and small vessels for a mile higher up to Morriston, where the tide-water is impeded by a wear. Its whole course is above twenty-five miles.

To the W. of the Tawe the hills rise to a considerable height. They are connected with the Forest Fawr range, at the sources of the upper branches of the Tawe, and comprehend farther southwards the Bettws Hills, a dreary mountain tract of a very uneven surface, extending between Ystradgynlais, Llaneiwy, and Bettws, six or seven miles in breadth from N.W. to S.E. Farther southward the hills decrease in height, and between Swansea Bay and Burry River the country presents only an undulating surface, which continues through the north of the peninsula of Gower, the southern part of which resembles the vale of Glamorgan, presenting nearly a level surface, and terminating likewise on the sea, with a steep calcareous coast rising about a hundred feet above its level. This peninsula divides Swansea Bay from Burry River*.

To the W. of the Bettws Hills, on the west side of the Llwchwr river, extends the Mynydd Mawr, or Great Mountain, W. and S.W. of Llandybie, which may be considered as the south-western continuation of the Forest Fawr range. Here the heights seem to lose that uneven and craggy aspect, which distinguishes the mountains of Glamorgan from all others in South Wales, and they begin to resemble the high land south of the Plinlimmon mountains, spreading out in pretty even table-lands, with isolated hillocks dispersed over them. Towards the shores the country becomes again undulating, and is intersected by a few hills. The elevated shores of this tract are separated from the beach by some extensive salt-marshes, between Burry river and the mouth of the Towy, especially those called Pembrey Burrows.

The Mynydd Mawr constitutes the western boundary of the eastern coal and iron basin of South Wales. This great deposit of mineral wealth extends at its western extremity on both sides of Burry river from Llanmadoc Hill, on the peninsula of Gower, to Kidwelly, whence its boundary passes over the Mynydd Mawr towards Llandybie, and then eastward to the head of the Swansea Canal, near the village of Ystradgynlais. From this place it proceeds by Bryn Oer to Llangattock and Crickhowel, on the banks of the Usk. Its direction now changes to the south, and by taking nearly a semi-circular sweep, it passes by Pontypool, in Monmouthshire, to Risca, Castell Coch, above Cardiff, Llantrissant, Newton Down, and Margam. Here it enters the sea, but emerges again at the Mumbles, south of Swansea, and pursues its course through Gower, towards Llanmadoc Hill, where it terminates. Its extent from E. to W., from Pontypool to Kidwelly, is about 54 miles, and its average breadth from 18 to 20*. Calcareous rocks bound it both on the S. and on the N. In the former direction they extend through the vale of Glamorgan and Gower to the shore; on the N. they extend a few miles, and are then succeeded by the red sandstone formation.

Between the Bettws Hills and the Mynydd Mawr runs the Llwchwr, which rises near the western extremity of the Black Mountains, or Forest Fawr, and suddenly emerges from the calcareous rock in a large and copious stream. After passing in nearly a southern di-

* Malkin's Survey of the Scenery, &c.

* Martin in Philos. Trans., 1806.

rection by Llandybie, it meets the Amman, which rises in the same range, but much farther eastward, and flows nearly due W., till it declines to the S., not far from its junction with the Llwchwr. Though considerably the larger river, the Amman loses its name at this junction, and the Llwchwr proceeds to the S.S.W., through a hilly country, till it discharges itself into Cardigan Bay by a wide æstuary called the Burry River. The river and the æstuary are both shallow, the former being fordable at low water at the town of Llwchwr, and the latter affording navigation only to small vessels as high as the same place. The whole course of the Amman, Llwchwr, and Burry rivers does not exceed 25 miles.

The Towy, the largest river of South Wales, next to the Wye, runs in the upper part of its course upwards of 20 miles through the slate, or rather shale formation, which occupies perhaps more than half of the W. part of South Wales along Cardigan Bay. Below Llandovery it separates the red sandstone and the limestone formation, as well as the eastern coal and iron basin from the slate district. This river rises at a short distance S. of Llyn Teify, the source of the Teify, in one of the extensive morasses with which that mountain-tract is overspread, from which the collected waters descend to the S.E. through the alpine valley of Berwin. The river then turns to the S., continuing its precipitous course in this direction through a dreary and desolate country over a rocky bed, and forming rapids and waterfalls. Near Llandovery it declines to the S.W., and hence downwards it runs through a wide valley, the hills receding farther from its banks and decreasing in height*. At Llandeilo Fawr the Towy turns to the W., and continues in that direction as far as Carmarthen. At nearly the same distance from Llandeilo Fawr and Carmarthen its waters are increased by those of the Cothi, a river rising some miles north of the road leading from Llandovery to Lampeter, and falling into the Towy below Llanegwad, after a course of upwards of 25 miles. After passing Carmarthen, the Towy proceeds, a few occasional windings excepted, nearly due S., and discharges itself into Carmarthen Bay by a wide æstuary. The tide rises perceptibly to the distance of about a mile above Carmarthen, measured along the channel of the river, which affords an easy navigation for ships of about 300 tons burden as high as that town. The whole course of the Towy is upwards of 70 miles.

To the N. of the road between Llandovery and Lampeter the high land extends rather in plains with gentle declivities: but to the S. of that line the aspect gradually changes, and the high lands on both sides of the river Cothi present themselves, with an extremely broken surface, presenting steep ascents and descents, separated by rather wide depressions of the soil. Proceeding to the S. the hills decrease in height, and it is only along the watershed of the rivers falling into the Towy, and of those joining the Teify, that they preserve an elevation which entitles them to the denomination of mountains. They begin to rise higher some miles S. of the place where the Teify turns N. to terminate its course in Cardigan Bay. Here stands the Brennin Fawr, rising 1285 feet above the sea. This summit is considered as the eastern extremity of the Precelly Mountains, a range which extends E. and W. for about 10 miles, and contains Cwm Cerwyn Hill, which rises 1754 feet, and terminates with Moel Eryr, a few miles farther W. This range continues still farther to the W., but becomes much lower, and terminates a few miles S.E. of Fishguard; and it may even be considered to proceed to the cape called Strumble Head, to the westward of that place, and along the coast from Strumble Head to St. David's Head.

The country which extends southward of this range, eastward to the river Towy, and westward to St. David's and St. Anne's Head, presents the appearance of an uneven plain, intersected with numerous detached hills or rocky eminences of an irregularly conical shape. The rocks which constitute these hills rarely support even a slight vegetation; and except the shores of Milford Haven, which are well wooded, the country is almost destitute of trees, especially so to the N.W. of Haverfordwest. This description applies equally to the slate district and the western coal-basin of South Wales*.

The western coal-basin of South Wales extends from Carmarthen Bay to St. Bride's Bay. Along Carmarthen

* Malkin's Scenery, &c.

* Kidd in Geol. Trans., First Series, vol. ii. De la Beche in Geol. Trans., Second Series, vol. ii.

Bay it extends from Laugharne to Tenby, from which place the southern boundary proceeds by Ivy Tower to St. Bride's Bay, where it extends about three miles up to the N.E. angle of the Bay. The northern boundary runs from the northern angle of St. Bride's Bay to the S.E. with a gentle curve, passing by Haverfordwest, Picton, and Templeton, to Laugharne. The length of this basin from Laugharne to St. Bride's Bay falls not much short of 30 miles, but its average width is stated to vary between three and five miles *.

The country S. of this coal-basin and extending S. of Milford Haven to the neighbourhood of Tenby, belongs to the limestone formation, and resembles the peninsula of Gower and the Vale of Glamorgan, presenting a gently undulating and rather horizontal surface. The coast, which extends from the mouth of the Teify to Milford Haven, is generally high, and the cliffs rise perpendicularly above the beach; and even to the south of Milford Haven it continues rocky, though much less elevated. But in Carmarthen Bay it gradually sinks, and terminates at the mouth of the Taff with marshes, among which the most extensive is Laugharne marsh, which comprises 2000 acres of excellent land, besides a large sandy tract.

The Taff rises at the foot of the summit of Brennin Fawr, and runs in the upper half of its course S.S.W. to Felm Llanfalteg, where it suddenly turns to the S.E., which general direction it preserves, with numerous windings, to its mouth in Carmarthen Bay, at Laugharne, where it forms a considerable æstuary. Some miles before it reaches the sea it is joined at St. Clare by the united rivers Afon Gynin and Dewi Fawr, and nearer its mouth by the Cywyn. The tide flows for some distance up these streams, and rises to a sufficient height to admit small vessels as far as St. Clare. The Taff runs about 24 miles.

The two rivers, called Cleddan, enter Milford Haven, which may be considered as their common æstuary. The eastern Cleddan, called also Cleddem, rises at a short distance W. of the source of the Taff, and flows S.S.W. to Robeston, whence it declines towards the S.W., and passing Slebach Hall, where it begins to be a wide river, meets a few miles farther the western Cleddan. This river, which is also called the Cleddy, originates in two branches, one of which rises two miles to the S. of Fishguard, in Llanstinan Moor, and is called the Cleddy: the other, called the Marlais, rises some miles farther to the W., in the hills which extend along the coast between Strumble Head and St. David's Head, and flows eastward. After a course of a few miles both branches unite, and the river then runs nearly due S. as far as Haverfordwest, whence it declines to the S.E., and a few miles farther joins the eastern Cleddan below Boulston. This river is navigable as far as Haverfordwest Bridge for ships of small burden. The spring tides, which are very high on this coast, rise about twelve feet at Haverfordwest.

The large and extensive æstuary below the junction of these two rivers, known by the name of Milford Haven, is a harbour sufficiently capacious to hold all the navy of England in perfect security, being well sheltered on all sides. It would have become a principal naval station but for its local position, and the circumstance that the form of the entrance renders it impracticable for ships to get out in certain states of the wind. The length of Milford Haven, from the junction of the two rivers to the sea, is about 16 miles*. Its mean breadth may be taken at one mile, though it increases to full two miles a little above the mouth of the harbour. This æstuary contains several creeks, which branch off from the main and form small harbours on all sides. The hills about it do not rise to any considerable elevation. St. Ann's Height, on the west side of the entrance, is 235 feet above the level of the sea.

* Martin in Philos. Trans. 1806.

* Malkin's Survey of the Scenery, &c.

SCOTLAND TO THE NORTH OF THE FORTH AND CLYDE CANAL.

Scotland, to the north of the Forth and Clyde canal, exhibits a much more mountainous aspect than Great Britain to the south of it: but the transition is not sudden. Between 56° and 57° N. lat., extensive plains and large tracts of a hilly country spread out along the sides of the mountains: and it is only to the north of 57° lat. that the mountains occupy nearly the whole space, almost to the exclusion of level and hilly countries. A long, deep, and comparatively very narrow valley divides the north portion of Scotland into two unequal parts. This valley, which is called Glenmore, or the great Caledonian glen, runs due south-west and north-east, beginning at the island of Lismore, in Loch Linnhe (56° 30′ lat., and 5° 33′ W. long.), and terminating at the promontory called the Suters of Cromarty (57° 40′ lat., and nearly 4° W. long.). Through this valley the Caledonian Canal has been constructed. This natural division we shall follow in our description, calling that portion lying to the south and south-east of Glenmore, Middle Scotland, and that to the north and north-west, North Scotland.

Middle Scotland.

The mountains extend over a vast region, comprehending more than half of the western and a considerable part of the eastern country, and bordering closely on Glenmore. From Ben Nevis, a huge and elevated mass, standing at the northern extremity and on the east side of Loch Linnhe, the boundary of this mountain region runs nearly due south to Ben Cruachan, a still more vast, though less elevated mountain, which extends between Loch Etive, a branch of the sea and Loch Awe, a fresh-water lake *. Hence the boundary runs in a south-eastern direction to the mountains of Arroquhar, which stand between the northern extremity of Loch Long, a branch of the sea, and Loch Lomond; it then crosses the lake to Ben Lomond. From this mountain it passes to Ben Ledi, on the west of Loch Lubnaig, in an E.N.E. direction, and then diverges to the N.E. till it arrives at the mountain Ben-y-Gloe (56° 50′ lat., and 3° 40′ W. long.). Hence it runs due east to the high ridge of Lochan-na-gar, lying near the point where the 57th parallel cuts the 3d meridian west of Greenwich. From this range it extends northward to the mountains at the sources of the Doveran, which separate the waters of this river from the Avon, a tributary of the Spey. A line drawn from these mountains to the northern extremity of Loch Ness, in Glenmore, forms the northern boundary of the mountain region. The north-western boundary runs along Glenmore to Ben Nevis. All the country included within the boundaries thus marked out, with the exception of a few deep glens and Strathspey, may be considered as elevated at least 1000 feet above the level of the sea. Only a few spots, and those of very small extent, lying in well-sheltered situations, are fit for agricultural purposes. Many tracts, however, afford rich pasture, and others are covered with woods; but all these bear a small proportion to those which are entirely useless from being covered with high mountains, bare rocks, or extensive bogs and moor.

On this elevated and extensive base there rise some mountain ranges of considerable height and extent, commonly called the Grampians; and though this name is not used by the natives, it has been adopted in geographical descriptions from the necessity of having distinctive names. The longest and most continuous mountain-range traverses Scotland in all its breadth, beginning from Ben Nevis, on the shores of the Atlantic Sea, and stretching eastward to a short distance from the German Sea, near Stonehaven. The highest part of this range, which may be called the central Grampians, runs at no great distance from the 57th parallel, and contains Ben Nevis, the extremely mountainous tract which extends to the east of that high mass to Loch Ericht and the mountains of Drumnacher, the extensive group of Ben-y-Gloe, the mountains of Cairnwall, Glasmheoll, Glastuluchan, the high ridge of Lochan-na-gar, and the summits of the Cairn-a-Mount and of the Battock. It may be considered as terminating on the east side, in the mountain called Caerloch, 18 miles W. by N. from Stonehaven. But from the east-

* MacCulloch's Highlands and Western Islands.

ern slope of Caerloch two ridges of hills run out and approach much nearer to the sea; one terminates three miles from Stonehaven, and the other advances to Girdleness, a cape skirting the mouth of the Dee on the south. The length of this mountain-range amounts to nearly 100 miles, and its breadth varies from 12 to 25 miles. The average height of it may be from 2000 to 3000 feet, but many of its summits exceed this considerably. The top of Ben Nevis is 4374, and that of Cairn Gower, the highest pinnacle of the Ben-y-Gloe ridge, is 3690 feet above the level of the sea. Three great roads cross this chain: the most western passes over the mountains of Drummacher, on the east of Loch Ericht; the middle road leads through Glen Shee, skirting the foot of the Cairnwall; and the easternmost crosses the range between the Cairn-a-Mount and the Caerloch. The eastern extremity of this chain may be considered as a promontory of the mountain region, jutting out from it upwards of 15 miles*.

That part of the mountain-region lying to the south of the central Grampians is traversed by a mountain range running from south to north. It begins on the south at the Firth of Clyde with Point Toward, the most eastern of the two promontories, in which the peninsula of Cowal, lying between Loch Long and Loch Fyne, terminates on the south. The cape is not high, but the mountains soon begin to rise; and on both sides of Loch Ech, a fresh-water lake, they attain the height of nearly 3000 feet, and continue to the northern extremity of Loch Long, where they join the mountains of Arroquhar, standing between Loch Long and Loch Lomond†. To the north of Loch Long they rise again higher, and contain the enormous masses of Benichevan, Benloighe, Bevour, Benduran, and Beudoe. Up to the last-named mountain the direction of the chain is nearly due north; but to the north of Bendoe it diverges to the east, and terminates soon afterwards, without joining the ridge of the central Grampians, being separated from it by that part of the Moor of Rannoch which stretches between Loch Lydog and Loch Rannoch. The length of this chain is not more than 50 miles, and its breadth to the north of Loch Long probably from 12 to 15; but in the peninsula of Cowal not more than half as much. The average height to the south of the mountains of Arroquhar may be less than 2000 feet above the level of the sea, but to the north of them it rises above that line. Two carriage-roads cross the mountains on the peninsula of Cowal: but to the north of Loch Long only one road leads over the range between the mountains of Benloighe and Benour from Glen Tay to Glen Orchy. This range forms an uninterrupted chain, and divides the waters which run to the Atlantic and German Seas: it may be called the Southern Grampians*.

In that part of the mountain region lying to the east of the Southern Grampians, a considerable number of mountains rise to a great height, as Ben Lomond, Ben Venu, Ben Ledi, Ben Vorlich, Ben More, Ben Lawers and Shehallian, most of which attain 3000 feet, and Ben Lawers even 4000 feet, above the level of the sea. They are not connected with one another by ridges running between them, nor do they stand insulated: for ridges of high hills, running westward, connect them with the range of the Southern Grampians. These ridges, which traverse the mountain plain from west to east, nearly parallel to the Central Grampians, may be considered as offsets of the Southern Grampians, and they increase in extent and in height as they approach the Central Grampians. In the south, the eastern extremities of these lateral ranges are hardly 10 miles distant from the principal range, but in the north they advance 20 miles and upwards. The most northern range is separated from the Central Grampians only by the narrow and deep glen in which the Tumel flows; and thus it may be said that here, near the mountain masses of Ben-y-Gloe, the Southern Grampians are connected with the Central Grampians. The valleys which separate these ranges from one another are long, and commonly narrow and deep; they are also situated at a considerable elevation above the sea, as long as they lie within the boundary of the mountain region, but farther to the east they become open and wide.

To the north of the Central Grampians are two other mountain ranges,

* Sketch of a Tour in the Highlands of Scotland. London, 1819. MacCulloch's Highlands and Western Islands.

† Statistical Account of Scotland, by Sinclair.

* Sketch of a Tour in the Highlands, &c.

the Northern Grampians and the Monadh Leadh Mountains. The first are connected with the Central Grampians near where the vast group of the Ben-y-Gloe raises its head; and they run hence N. by E. to the still more extensive and more elevated group of the Cairn Gorm Mountains, inclosing on all sides a mountain lake, which is the source of the river Avon, a tributary of the Spey. The pinnacles of the Cairn Gorm, Ben Buinac, Ben Muc Dhu, and Ben Main, which rise here near one another, are now acknowledged to be the highest land in Great Britain. Ben Muc Dhu rises to the height of 4389 feet above the level of the sea, and preserves in its dark recesses the snow all the year round*. Here the range divides into two branches: the western, called the Braes of Abernethy, runs due north, separates the narrow valley of the Avon from the wider one of the Spey, and terminates near their junction in the high mountains of Cromdale. The eastern branch takes a N.E. direction, and after lowering considerably in height, terminates in the mountains west of the upper course of the river Doveran, on the edge of the mountain region. In length, the Northern Grampians may extend to upwards of 30 miles, with a breadth of about 10, except at the mountain knot of the Cairn Gorm, where they occupy a greater extent of country. Between the last-named mountain mass and the Central Grampians, the average height may be 3000 feet, or nearly as much; but farther to the north it is less. No carriage-road crosses this range.

The Monadh Leadh mountains are not connected with the Central Grampians by a continuous range: they commence on the mountain plain with the Corryarraik mountains, between the southern extremity of Loch Ness, in Glenmore, and Loch Laggan, in the valley of the Spean, run north-east, and after dividing into two principal branches, and inclosing the upper part of the valley of the Findhorn, they terminate about Loch Moy, and in the hills of Polochoch, in the parallel of the north end of Loch Ness. Their whole length is upwards of 30 miles, and their breadth is considerable; but they contain no high summits, and perhaps do not attain much more than 2000 feet above the level of the sea. A great road passes this mountain range nearly at its north-eastern extremity, near Loch Moy.

A considerable portion of the mountain region is occupied by the Moor of Rannoch, an extensive plain, elevated about 1000 feet above the level of the sea. It is bounded on the west by the mountains dependent on the immense mass of Ben Cruachan, which is said to be 20 miles in circumference, and to rise 3390 feet above the sea. From the mountains of Ben Cruachan the moor stretches eastward between the central Grampians and the northern extremity of the Southern Grampians to the west end of Loch Rannoch. It is separated by high mountains on the north-west from Loch Etive, and on the north from Loch Leven; and other mountains divide it on the south from Glen Orchy. The surface of this open and level plain is covered by an immense bog, interspersed in some places with pieces of rocks and a few pools of black water, and overgrown here and there with yellow rushes. The collected waters of this moor give rise to three rivers, the Lydoch, the Etive, and the Orchy, and feed a large lake, Loch Lydog, on the banks of which a few fir trees grow; in all other parts it is a plain producing neither trees, shrubs, nor even heath. This dismal tract, which extends about 20 miles in every direction, and occupies a space of nearly 100 square miles, is a complete desert. It feeds no wild animals, nor is it visited by birds. It is, however, still exceeded in barrenness and dismal aspect by that part of the Central Grampians which is contiguous to it on the north, and which, in its whole extent from Ben Nevis to Loch Ericht, exhibits nothing but bare rocks towering one above the other, and frightful precipices, interspersed with numerous bogs. Both tracts, taken together, may extend over a space of 800 square miles, and are nearly unproductive*.

The mountain region hitherto described, in no part borders closely on a level country, but is inclosed on all sides by hilly tracts of greater or less extent. On the west of it the hilly country extends to the very shores of the Atlantic between Loch Fyne and Loch Linnhe. Properly speaking, the greatest part of this border country is not a hilly region, but a succession of plains, elevated from 500 to 700 feet above the level of the

* Sir T. Dick Lauder on the Inundations of the Rivers, &c.

* MacCulloch's Highlands and Western Islands.

sea, and separated from each other by narrow and deep valleys, which apparently have been excavated by the water-courses of the rivers. Their level is much lower than that of the moor of Rannoch, and they are in part covered with heath and grass, though considerable tracts are overspread with bogs and moor*. Such is the aspect of the moor of Lechan, which occupies nearly all the country between Loch Awe and Loch Fyne, and extends for upwards of 12 miles in length by 3 in breadth. Such, pretty nearly, is also the tract of Mid Moor, extending between the northern part of Loch Awe and the Atlantic Ocean. The deep but commonly open, and sometimes wide valleys along the water-courses of the rivers, and the banks of the extensive lakes and bays, contain fine woods, and many tracts of level ground, on which every sort of grain is cultivated except wheat.

The waters of this district, which are collected in the bogs and moors, generally flow by a short descent to the Atlantic, and form no large rivers. In the centre of this district, however, is the great lake of Awe. Loch Awe receives its principal supply of water from the Orchy, which is formed by the waters collected on the southern part of Rannoch Moor, and flowing into Loch Tullich at the northern descent of Bendoe. A great part of its course along the western declivities of the high mountains of Ben-doe, Benduran and Benour lies in a deep and narrow glen, called Glen Orchy, from N. to S.; but by degrees it declines to S.W., and where its direction becomes due W. the valley is wide and open, and through it the Orchy enters the north-eastern branch of Loch Awe, after a course of about 20 miles. Loch Awe is one of the largest lakes of Scotland, extending from N.E. to S.W. nearly 20 miles. Its greatest breadth does not exceed a mile, and in some places not half that extent. The level ground on its banks is narrow, and the heights which inclose it are lofty, and of a rude and savage aspect. Its northern extremity is skirted by the immense mass of Ben Cruachan, the giant of the Scotch mountains. From the north-western extremity of the lake flows the rapid river Awe in a north-western direction through a narrow and wild valley, eight miles in length, to the bay called Loch Etive†.

At a distance of about six miles from the southern extremity of Loch Awe begins the Peninsula of Cantyre, which is nearly separated from the continent by two bays, Loch Gilp on the east, and Loch Crinan on the west, and extends for nearly 50 miles to the Mull of Cantyre, about 55° 20′ of lat. This cape rises to about 1000 feet above the level of the sea; but all the other parts of the peninsula, which, at an average, may be from six to eight miles wide, and is in many places intersected by deep bays, have only hills, many of them low, intersected by fine valleys and level land: the peninsula consequently, with its numerous woods, presents picturesque views, and produces rich crops of every sort of grain, including wheat, on its excellent soil*.

Loch Fyne, a deep bay, divides the peninsula of Cantyre from the peninsula of Cowal, which presents a much more mountainous aspect, especially in its eastern districts, which are covered with the southern summits of the Southern Grampians. Very few parts of this district are fit for agricultural purposes; but the hills and mountains make excellent sheep-walks. The country between the Firth of Clyde and Loch Lomond has a similar character†.

Loch Lomond, the most beautiful and largest lake in Scotland, is nearly 22 miles long; its breadth varies from half a mile and less to five miles and upwards. Its beauty is in part derived from the great number of small and rocky islands covered with trees of different kinds, which are scattered over the southern and widest portion of it, and in part from the picturesque and varied country which surrounds its banks. The northern part of the lake up to Ben Lomond is inclosed by steep rocks, which in many parts rise to a great height and advance to the brink of its basin. The green conical summit of Ben Lomond, rising to 3240 feet above the sea, adorns the middle portion of this fine sheet of water, which, towards its southern extremity, is surrounded by extensive flats, in general highly cultivated. The Leven, which issues from its most southern extremity, runs only seven miles, through a fine, open, and very wide valley, and enters the Firth of Clyde at Dumbarton, falling in this space 22 feet.

The country to the south of the Cen-

* John Smith's Agric. Survey of Argyle.
† MacCulloch's Highlands and Western Islands.

* MacCulloch's Highlands and Western Islands.
† Sinclair's Statistical Account of Scotland.

tral Grampians between the mountain region and the German Sea, is divided between hills, and fine valleys, and an extensive plain, the last occupying the middle tract. The hilly country skirting the mountain region on the east, and the Central Grampians on the south, is not of great extent: it varies from three to eight miles from west to east along the eastern edge of the mountain region, and from six to twelve miles along the base of the Central Grampians. The hills which traverse it are offsets of the Central Grampians, or of the high ridges which occupy the mountain region to the E. of the Southern Grampians, and do not rise to a great height, except on the north, where Mount Blair, to the south of the Cairnwall, attains an elevation of about 3000 feet The valleys, commonly wide, but in many places narrowed by the offsets of the hills, exhibit the richest and most varied scenery in Scotland, and yield excellent crops of grain, whilst the wood-covered hills afford abundant pasture for wild and domestic animals.

To the east and south of this hilly tract stretches the most extensive plain in Scotland, called Strathmore*, or the Great Valley. It begins on the south-west on the banks of the Forth at Stirling, and extends to Stonehaven on the north-east, comprehending a level tract of at least 80 miles in length, and from 16 miles to 1 mile in breadth, with hardly a hill or eminence to obstruct the view. The western line of separation between Strathmore and the hills passes from Stonehaven through Blairgowrie, on the river Isla, and thence to the Pass of Birnam, on the Tay, from which it extends to Crieff, on the Earn, and to Callander, on the Teith, till it terminates near Aberfoil, on the Forth, this river forming the southern boundary of the plain. Its eastern boundary will be noticed in the description of the hill ranges which separate it from the German Sea. This plain contains a greater continuous tract of cultivated land than any other part of Scotland; and though its soil is light, sandy, and not of the first quality, it produces rich crops of barley and other grains, and is peculiarly adapted for the growth of potatoes. Plantations of trees are scattered irregularly over its surface in hedge-rows, clumps, and extensive woods*.

The plain through which the Forth and Clyde canal passes cannot be considered as a part of Strathmore, for it is separated from it by a range of hills called the Campsie Hills. The general direction of these eminences is from E.N.E. to W.S.W. between the Forth at Stirling and the Clyde at Dumbarton; they extend about 24 miles in length, with an average breadth of between 9 and 10. On the east of these hills extends a tract of low land, with an undulating surface, called the plain of Falkirk, for a space of 10 miles between the hills and the Firth of Forth: but on the west, near Dumbarton, the hills advance to the banks of the Clyde, and the rock on which the castle of Dumbarton stands may be considered as the western extremity of this hill-range. In different districts the hills bear different names. To the west of Stirling they are called Dundaff Hills; in the centre, between the sources of the Carron and of the Endrich, where they attain a height of about 1500 feet above the level of the sea, the Campsie Fells: and where they approach the Clyde, the Kilpatrick Hills. The rock on which the castle of Stirling stands is the most north-eastern offset of this range. These hills contain great tracts of uncultivated land, especially on the north side, where extensive moors occupy the sloping declivities. On the south their descent is rather rapid†.

The waters which originate in the Campsie Hills run chiefly in longitudinal valleys, either E. or W. The most important is the Carron, which rises on the eastern declivity of the Campsie Fells, and flows for nearly two-thirds of its course in a narrow but open valley, and the remainder through the Plain of Falkirk, forming at its mouth in the Firth of Forth a small æstuary. The whole of its course, which is from W. to E., amounts to upwards of 25 miles.

The Campsie Hills constitute the southern boundary of the Strathmore. On the E. that plain is separated from the German Ocean by two other extensive ranges of hills, the Ochill Hills, extending between the Firth of Forth and the Firth of Tay, and the Sidla Hills, occupying a large tract of land between the Firth of Tay and the South Esk.

* We here use the term Strathmore in a large or extended sense, which, for geographical description, is both necessary and convenient

* Sketch of a Tour in the Highlands; and MacCulloch.

† Sinclair's Statistical Account of Scotland.

The Ochill Hills begin about four miles from Stirling and two miles from the river Forth, and extend in a direction E.N.E. to the Firth of Tay, and along this bay nearly to the open sea, occupying to the southward nearly the whole of the peninsula of Fife with their offsets and branches. This extensive range may be divided into the mountainous and the hilly part. The mountainous part rises to a considerable height, and commonly with a rapid ascent, so that it might be called a mountain-range, if it were not so near the much higher Grampians. It comprehends the western and northern ridges of the hills, or more especially those lying between the river Allan and the lower course of the river Devon, both tributaries of the Forth, on the west, and the high summit of the East Lomond and the Firth of Tay, at Newburgh on the east, and extending southward to within three miles of Dunfermline. Its length from S.W. to N.E. may be estimated at 24 miles, and its average breadth about 12. Some of its summits attain a considerable elevation: Bencleugh, lying eastward of the source of the Devon, rises 2300 feet above the level of the sea. West Lomond and East Lomond are two remarkable mountains, standing close together on the N.E. of, and at no great distance from, Loch Leven. West Lomond is 1721 feet, and East Lomond 1466 feet high. Other mountains, skirting the upper valley of the Devon, rise to an equal height, or still higher. The fine and commonly wide valleys of this ridge are well cultivated, and the mountains afford abundant pasture. In some places the scenery is hardly inferior to that of the Grampian Hills in richness and beauty. To the east and south of this mountain-range long ridges of hills traverse the peninsula of Fife nearly to the shores of the German Sea and the Firth of Forth; and as they are not generally more than 500 feet high, and frequently much less, they impart to the country, by its strongly undulating surface, that pleasing aspect for which the county of Fife is so remarkable. Though they may render the operations of agriculture somewhat difficult, they form no insuperable obstacle, this country being as well cultivated, and as rich in its agricultural produce, as any other part of Scotland, the county of Haddington excepted. A few hills rise to some height, as Largo Law, near the Firth of Forth, which is 952 feet, and Normans Law, on the Firth of Tay, S.W. of Flisk, whose summit is said to attain 1500 feet above the level of the sea. The latter stands in a ridge of hills which extends along the Firth of Tay at a very short distance from it*.

The Ochill Hills, with the lower ranges dependent upon them, which traverse Fifeshire, may be considered as the most eastern portion of the immense coal bed which extends, though not without considerable interruptions, from the banks of the Eden in Fifeshire to those of the Irvine in Ayrshire, and which includes, besides the Ochills, the Campsie Hills, a considerable part of the hills which divide the Clyde from the rivers falling into the Firth of Forth, and even a portion of the hilly country between Ayrshire and the lower part of Clydesdale†.

The waters which descend from the Ochill Hills form a few considerable rivers, which flow in longitudinal valleys either westward into the Forth, or eastward, through the hills of Fifeshire, to the German Ocean. Among the former the most considerable are the Allan and the Devon, and among the latter the Leven and the Eden.

The River Forth and its Valley.

The Forth rises in the high mountains which divide Loch Lomond from Loch Kateran, or Catherine. The numerous streams descending from the north-eastern declivity of Ben Lomond and the southern of Ben Venu, and other mountains, collect in a deep and narrow glen and form the Forth, which continues to flow rapidly in a wild and narrow glen for about 10 miles. It then enters a valley formed by high and precipitous rocks, and after a course of 6 miles more, joins another small river coming from the north: after which junction it forms a fine waterfall somewhat above Aberfoil, and soon after enters Strathmore. At Aberfoil it receives the name of Forth, its former course being called the Water of Duchray. The source of the stream, which joins the Forth above Aberfoil, is on the southern declivity of Ben Venu, at no great distance from Loch Kateran. The stream runs rapidly through a glen, forming in

* Thomson's Agric. Survey of Fife, and Statist Account, &c.

† Sinclair's Report, and Thomson's Agric. Survey of Fifeshire.

its course two lakes, Loch Chon and Loch Ard, which, though of small extent, each of them being less than two miles in length, are remarkable for the wild scenery that surrounds them*. Below Aberfoil the Forth runs through a level country, the Strathmore extending northward of it, and the Campsie Hills being divided from it by a low tract extending along the river to the rock of Stirling, with which the Campsie Hills terminate. The rest of its course is again through a level country till it reaches the bay called the Firth of Forth. The place where the river enters the sea is difficult to determine, but it may be fixed near the place where the Devon mingles its waters with it, and on that supposition the whole course of the Forth may be nearly 60 miles, taking its numerous windings into account. The Forth derives its importance not from its inconsiderable river-course, but from the extensive bay into which it falls, and which receives from it the name of Firth of Forth. This bay, one of the largest in Great Britain, begins at the mouth of the Forth, and extends for about 50 miles to the German Sea, till it terminates between Fifeness and the rocks of Tantallan Castle, where it has attained a breadth of about 15 miles.

On the shores of the Firth there are some considerable plains, and a still larger extent of a fine undulating country, which is intersected by a few high and rocky hills, and comprehends the most fertile and best cultivated provinces of Scotland. The river Forth has formed in its course below Aberfoil, but especially towards the lower part of its course, more extensive tracts of alluvial soil (called *carses*) than any other river of Great Britain†.

The basin of the Forth towards the south is very limited: the rivers originating in the Campsie Hills run off to the E. and W. The only tributary entering the Forth from the S. that deserves to be mentioned is the Bannockburn, a small winding river which rises in the north-eastern hillocks of the Campsie Fells, and joins the Forth between Stirling and its mouth, after a course of hardly 10 miles. The rivers, however, which enter the Forth from the N. are much more considerable, and drain all the country to a distance of about 15 miles of it. They are, reckoning from W. to E., the Goodie, the Teith, the Allan, and the Devon.

The Goodie, the smallest of these tributaries, rises in the hills which extend from Aberfoil to Callander along the western boundary of Strathmore, and running through a level country, falls into the Forth, after a course of hardly 15 miles. Near the hills it traverses the Loch of Monteith, which is about two miles long and nearly as broad, and surrounded by a tolerably level country

The Teith is the largest of the tributaries of the Forth, and should be considered as the principal river, its course before the junction having exceeded that of the Forth by at least 15 miles. It has two sources, both of them in the high mountains which inclose the northern extremity of Loch Lomond on the N.E. The southern source is about five, and the northern about seven miles to the N. of the source of the Forth; but before these branches unite they have a long course, and drain a considerable extent of very mountainous country. The southern branch rises in the mountains N.W. of Loch Kateran, at a distance of about four miles from it, and runs through a ravine till it falls into the Loch.

Loch Kateran, or Catherine, which lies in a winding form along the northern side of Ben Venu, and is about 10 miles long, with a breadth not exceeding three-quarters of a mile, is noted for the beautiful scenery of the Trosachs, which, extending at the foot and on the broken and often precipitous slopes of Ben Venu, exhibit, both by land and water, so many turnings and windings, so many heights and hollows, so many glens, capes, and bays, that it is impossible to advance twenty yards without having the prospect changed by the continual appearance of new objects, while others are constantly retiring out of sight. From the southern extremity of Loch Katteran the river issues in a southern direction, but soon turns again to the E., and shortly afterwards traverses two other lakes, Loch Achray and Loch Venacher, of which the former is hardly two miles long, but the latter exceeds three: neither of them exceeds half a mile in breadth, but they exhibit, with the finely-wooded country surrounding them, many beautiful views, especially Loch Achray. Issuing from Loch Venacher, the river enters a wide valley, in which it continues to flow to its junction with the northern branch near Kilmahoy, above Callander. The

* MacCulloch's Highlands and Western Islands.
† Sinclair's Statistical Account of Scotland.

northern branch of the Teith rises at the western extremity of a glen, which for many miles is a mere ravine, till it approaches Loch Doine, in which the river falls after a course of about 10 miles. Loch Doine is, perhaps, not three-quarters of a mile long, but is only divided from Loch Voil, its larger neighbour, by a small neck of low land: both together extend above five miles in length, and are surrounded by cultivated land, as the hills recede to some distance. But the hills close again upon it at Balquhidder, where the river issues from Loch Voil, and soon changes its course, which so far is E.N.E., to a southern one, by which it flows rapidly in a narrow valley between high mountains to Loch Lubnaig. This lake extends almost from N. to S., with a bend to the E., nearly five miles, but it is very narrow, its breadth nowhere exceeding half a mile. To the east of it lies an open, flat tract, called Strath Ire, but the western boundary is a solid mountain-wall formed by the steep and rocky declivity of Ben Ledi. After leaving Loch Lubnaig the river again enters a narrow valley, which gradually widens, and terminates in the plain near Kilmahoy, where it joins the other branch. The united stream runs through the southern and undulating part of Strathmore, and falls into the Forth about four miles W. of Stirling. The course of the Teith is not much inferior to the whole length of the Forth*.

The Allan rises in the north-western declivity of the Ochill Hills, but soon descends into the plain of Strathmore, where it changes its northern course into a western, and gradually declines to the S.W. and S., skirting the western range of those hills at a distance of from three to four miles: it falls into the Forth between the mouth of the Teith and Stirling, about two miles from each. Its course amounts to about twenty miles.

Between the mouth of the Allan and that of the Devon the southern extremities of the Ochill Hills approach the Forth in the hills of Logie; and as the castle of Stirling stands opposite to them, on the north-eastern summit of the Campsie Hills, the valley of the Forth is here considerably narrowed, and is not much more than a mile wide.

The Devon rises at a little distance to the S., and much more to the W., of the source of the Allan, in the very heart of the Ochill Hills, and receives the greatest part of the waters of this mountain region. The upper part of its course is in a narrow and deep glen of about fifteen miles in length, between the highest ridges of the Ochills to the Church of Muckart, where the valley widens, and two or three miles farther to the S.E. ends in the plain, which extends from Stirling to Kinross through the centre of the Ochills. The greater part of its upper course is from W. to E., but afterwards it declines to the S. E., and before reaching the plain it suddenly turns to the W., and breaking through a dyke of trap, forms the singularly-romantic scenery of the Rumbling Bridge—a deep chasm which it has cut through the rock, which terminates in a considerable cascade, called the Caldron Linn. Through all this distance it runs with great rapidity, which it still preserves for some extent in the plain itself. But as the hills rising on the S. and N. of the plain gradually recede and decrease in size, the river becomes slower till it reaches the western extremity of the Ochills, and enters Strathmore*, changing at the same time its western course into a southern one. After a course of about four miles in this direction it falls into the Forth near its mouth. The length of its course may amount to about 45 miles.

The rivers Allan and Devon, which enter the Forth, drain about the western half of the mountainous portion of the Ochill Hills. The waters of the eastern districts are carried off by the Leven and by the Eden.

The Leven in Fifeshire is the channel by which Loch Leven sends its waters to the sea. This is the only lake of any extent which does not belong to the Grampian range: it is situated among the Ochill Hills, and differs from all the rest in its form; its length extends from N.W. to S.E. to upwards of five miles, and its breadth to more than half that space, so that it has an oval form. Though everywhere surrounded by the Ochill Hills, they do not approach near its banks, except on the S.E. and E., the latter quarter being occupied by the gentle declivities of the West Lomond, and its prolongation of the Bishop Hill and Ben Artie. On the W. side of

* MacCulloch's Highlands and Western Islands.

* We here use Strathmore, as above stated, in an extended sense. This district, as distinguished from Strathmore Proper, is called Glen Devon.

the lake extends the Plain of Kinross, four miles in length, and about the same in breadth. The rivers and streamlets which descend from the high hills that stand at a considerable distance from its banks and increase the waters of the lake, are very numerous and rapid, and give a peculiar character to the country about it. Some small islands in the lake add greatly to its beauty. The Leven, issuing from the eastern angle of the lake, runs through an open and fine, though not wide valley for five miles, when it enters the undulating plains of Fifeshire, through which it winds till it falls into the Bay of Largo, a part of the Firth of Forth. It receives not far from its mouth its great tributary the Ore, which rising on the eastern base of the Salmie Hills, a detached offset of the Ochils, flows through an undulating country nearly 20 miles. The course of the Leven, from the Lake of Leven to the sea, is less than 15 miles*.

The Eden rises in the northern slopes of the West Lomond and the hills contiguous to it on the W.; but though, originating among high hills it soon enters a wide and well-cultivated valley, called the How of Fife, extending from two to three miles in breadth and upwards of eight in length. The remainder of its course is generally to the N.E., and parallel to the Firth of Tay, from which it is divided by a range of pretty high but gently-sloping hills: it runs through an undulating country, the hills in some places advancing to within half a mile of the river, and in others receding to two miles and upwards from it. At its mouth in the German Sea it forms an estuary. The whole course of the Eden amounts to about 25 miles.

The Sidla Hills commence about three miles N.E. of Perth, and one mile and a half from the banks of the Tay with the Rock of Kinnoul, whose summit is 632 feet high; and they extend in a N.E. direction to the small lake of Lundie, a distance of from 12 to 15 miles. Hence they run almost due east to the sources of the Deanwater about the same distance, and here they may be said to terminate, though a lower ridge of hills, dependent on the Sidla Hills, extends to the vicinity of the town of Forfar, and is continued farther to the N.E., nearly up to Brechin, on the South Esk. South of the lake of Lundie the highest summits rise to 1000 feet and upwards, as the famous Hill of Dunsinan, (1070 feet), the Kingseat (1050), and farther to the north the Hill of Lochtown (1172): but the highest hills are situated in that part of the ridge running east of Lundie, where the Sidla Hill rises to 1406 feet, and the Craig Owl, near Preston, to 200 or 300 feet more. The latter is the highest summit of this range, and to the east of it the hills decrease in height and breadth. On the west, especially where they run nearly parallel to the course of the Tay and Isla, the Sidlas exhibit the appearance of high hills, and rise pretty rapidly; but, towards the German Ocean they decrease gradually, or rather form a succession of terraces, which grow lower and lower as they approach the sea. These terraces were, fifty years ago, mostly covered with heath, and of little use for agricultural purposes; but lately the improvement has been so rapid, that their surfaces are almost entirely converted into fields and rich pastures. The extensive moor of Lundie, situated nearly in the centre of the ridge, on its southern declivity, is a striking instance of what may be done by industry combined with sufficient capital. Where the last terrace approaches the Forth of Tay lies the Carse of Gowrie, one of the most fertile tracts in Scotland, and perhaps in Great Britain. It begins south of the Rock of Kinnoul, and extends to Milnfield, a hamlet situated about five or six miles to the west of Dundee, and averages in breadth from two to three miles. Very abundant crops of every sort of grain are raised here, and in its extensive orchards fruits of every kind are produced in abundance*.

The Sidla Hills terminate to the south of Forfar, and here a wide, open valley extends from Strathmore to the German Sea. But to the N.E. of Forfar the hills again rise to 500 feet and upwards, and this hilly country extends along the sea, between the mouths of the South Esk, North Esk, and Bervie, occupying in the south in breadth a space of five or six miles, which, however, in advancing to the north, gradually decreases till it terminates a few miles south of Stonehaven. By the northernmost range of these hills, the Strathmore, which here is called the How of Mears

* Thomson's Agric. Survey of Fife.

* Sinclair's Statistical Account of Scotland, and Sketch of a Tour in the Highlands

is so narrowed, that it does not occupy more than half a mile in breadth, where it terminates on the shores of the German Sea.

The spongy soil with which the Sidla Hills are chiefly covered prevents the rain that falls on them from forming any large stream. Even from the steep declivities towards the Tay very few rivulets descend, and that large river derives its waters almost entirely from the Southern and Central Grampians, the supply from the Ochill Hills being likewise inconsiderable.

The River Tay and its Valley.

The Tay is the largest river in Scotland, draining with its numerous tributaries an extensive country, and carrying a great mass of water to the sea. All the rivers which descend southward from the Central Grampians between 3° 20′ and 4° 40′ W. long., and those flowing from the eastern declivity of the Southern Grampians, between 56° 20′ and 56° 50′ N. lat., together with the waters collected in the greatest part of the Moor of Rannoch, meet in the plains above Perth and increase the Tay, so that its basin above Perth is estimated at 1820 square miles, and it carries altogether to the German Ocean the waters of 2396 square miles, or nearly one-twelfth of Scotland*.

The river, which for the longest part of its course bears the name of Tay, rises in the southern Grampians, on the eastern declivity of the extensive masses of Benchevan, a few miles N.W. of the northern extremity of Loch Lomond, and is there called Etterick Water. Running for the first five or six miles through a deep, narrow, and uninhabited glen, or rather ravine, it enters Strath Fillan, which, however, is rather a glen, extending in breadth from mountain to mountain only about two furlongs. Issuing from this glen by a narrow pass, the Etterick enters Glen Dochart and Loch Dochart, and receives the name of the Dochart. Loch Dochart extends nearly two miles from W. to E, but its breadth is so inconsiderable that it rather resembles a large river than a lake, especially as its waters run with great rapidity. Glen Dochart extends from twelve to fourteen miles along the river, and from mountain to mountain in many places half a mile, and even more; but as its elevation is very great, agriculture is hardly attempted, and it is still a pastoral glen. At the eastern end of this glen the Dochart is joined by the river Lochie, and soon afterwards enters Loch Tay. Loch Tay extends in the direction of the river from S.W. to N.E., with two slight bends to the E. and W., for about sixteen miles, with an average breadth of about a mile, and contains considerable tracts of cultivated level ground on its banks, and on the gentle slopes of the high mountains that surround it. The river which issues from the lake receives the name of Tay, and its waters are soon afterwards increased by those of the Lyon, which joins it on the left bank. It then flows through the open, rich, and well-cultivated valley called Strath Tay, which extends between mountains of less elevation than those on the upper part of the river, and has a breadth of from one to three miles and upwards to the point where it joins the Tunel, and changes its eastern course to a southern one. The open valley continues for some miles farther along its banks; but by degrees the mountain ridges on both sides draw closer and closer, and about two or three miles N. of Dunkeld the valley is changed into a glen, which exhibits some of the richest and most picturesque scenery in Scotland, and extends to about two miles S. of Dunkeld, where it terminates with the pass of Birnam*. The remainder of the course of the Tay lies through Strathmore, its direction from Dunkeld to the junction with the Isla being to the E., and afterwards again to the S., till about two miles below Perth it resumes its eastern course and enters the Firth of Tay: together with the river Earn, it separates, by the wide valley at its mouth, the northern offsets of the Ochill Hills from the southern rocks of the Sidlas. The whole course of the Tay as far as Perth may amount to about 100 miles: and if the Firth of Tay, extending from the head of tidewater, half a mile above Perth, to Button-ness, the northern boundary of this estuary, be added, we must increase the length of the river by about 30 miles. The river is navigable for vessels of 100 tons to Perth during spring tides. The discharge of the river, in its mean state, was ascertained by a careful measurement of Dr. Anderson to be 218,159 cubic feet per minute. In July, 1819, after a long drought, the

* Communications from Perth, and Sinclair's Report of Scotland.

* Sketch of a Tour in the Highlands, &c.

discharge was found to be only 27,420 cubic feet per minute *.

The Tay is joined from the N. and E. by the Lochie, Lyon, Tumel, and Isla, and on the W. by the Bran, the Almond, and the Earn.

The Lochie rises on the eastern declivity of Ben-our, in the Southern Grampians, runs for about 15 miles, first through a ravine and then through a glen, between very lofty and steep mountains, and falls into the Dochart not far from where this river enters Loch Tay. It waters a cold pastoral glen, which is fit for agriculture only near the mouth of the river.

The Lyon is formed by the waters running off from the eastern declivity of Benduran, and flows for some miles in an extremely narrow ravine till it enters Loch Lyon, a lake less than two miles long, and hardly half a mile broad. Issuing from this lake it enters a glen, bounded by very lofty and almost unbroken ridges of mountains of very steep ascent, which leave only very narrow tracts of land on the banks of the river. The great elevation of this glen, and the consequent coldness of the climate, render it merely a pastoral district. Many of the mountains inclosing it rise to upwards of 3000 feet. About 16 miles above the junction of the Lyon with the Tay, the glen enlarges to a valley, and the mountains decrease in height and steepness. This lower part of the valley is admired for its picturesque beauty even in a country where such scenery is common. It is, in a great part, well cultivated. The Lyon, joining the Tay on the left bank, a few miles after its issue from Loch Tay, has a course of about 40 miles.

The Tumel may be called the rival of the Tay, being not inferior in volume of water where both rivers meet, and it drains a more extensive country before their junction; its sources also are more to the W. It rises on the Moor of Rannoch, where the collected waters form a river called Gowar, and flow into Loch Lydog, six miles long and less than one broad, from which the river issuing, runs eastward to Loch Rannoch, which is nine miles long and rather more than one broad. Into this the Ericht flows from the N., and carries off the waters of Loch Ericht, and of part of the rocky and desolate country that surrounds it. Loch Ericht, surrounded on all sides by high, steep, and bare rocks, extends from N.N.E. to S.S.W. about ten miles, but in breadth does not exceed one. On the banks of Loch Rannoch the country improves, and agriculture begins: stunted trees skirt the lake, and rise high up the hills. The river issuing from the lake receives the name of Tumel, and runs for about sixteen miles due E. to its junction with the Garry in a very fine valley, which is separated from that of the Lyon by the steep mountain-mass of Schehallien. This valley grows narrower towards the point of junction with the Garry, where the waterfalls of the Tumel are seen in a wood, and continues at nearly the same width for about nine miles farther, where the junction of the Tumel with the Tay takes place: the course of the latter part of the river is S. The Tumel is the most beautiful of the Scotch rivers: its whole length from the centre of the Moor of Rannoch to its junction with the Tay, the lakes included, exceeds sixty miles*.

The Garry, the greatest of the tributaries of the Tumel, originates in the high mountains on the E. of Loch Ericht, from which some torrents descend in very narrow ravines to Loch Garry, which is about two miles long and rather more than half a mile broad. Hence the river runs for a few miles to the N., but bends suddenly to E.S.E., and traverses Glen Garry, nearly preserving that direction to its junction with the Tilt, after which it declines to the S.E., and joins the Tumel. The upper part of Glen Garry is very narrow, and inclosed by high mountains. To the W. of Dalnacardoch, however, it widens; the mountains which form the southern boundary decrease in height and size, and this part of it is a fine and picturesque pastoral glen. Agriculture only begins near Blair, not far from the mouth of the Tilt†. Farther on the valley is again contracted by the mountains drawing closer to the river, till, in the pass of Killikrankie, it becomes so narrow, that the bed of the river occupies the whole breadth of the valley. Issuing from this pass, the Garry soon reaches the Tumel. The course of the Garry is about forty miles. The Tilt, which joins the Garry below Blair Athol, rises in that part of the Central Grampians called Drumnacher Mountains, and

* Communication from Perth.

* MacCulloch's Highlands and Western Islands.
† Sketch of a Tour in the Highlands, &c.

runs for the upper part of its course along the foot of the mountains from W. to E., but bends suddenly to the W.S.W., forming an angle of about 45°; in which direction it continues to its mouth, declining by degrees farther to the S. Glen Tilt, in nearly all its extent, is so narrow, that the river and the road occupy all the level space, and in many places there is no room for the road. The upper part of the glen exhibits only naked and bare rocks; but the lower part is well wooded, and is reckoned among the finest and richest scenery in Scotland. This river runs nearly 30 miles. The two most distant sources, which send their waters from the Moor of Rannoch and from Glen Tilt to the Tumel, are nearly 1½° of longitude distant from one another, and in a straight line this distance considerably exceeds 50 miles*.

The Isla is formed in the Central Grampians, where the Glasmheoll and the Glastuluchan raise their heads, and runs for a short distance in a ravine, called Glen Isla, which soon widens to a cultivated glen, extending in width from one to two miles. Its general course in this glen is S.W., and before it issues from the glen it forms at Craig a waterfall from 70 to 80 feet high. Strathmore begins at Alyth, and the remainder of the course of the river lies through its plains in a S.W. direction, till it joins the Tay, after its junction with the Erroch. The whole course of the Isla rather exceeds 40 miles, of which 25 are through Glen Isla. Its great tributary, the Erroch, is formed by the junction of two considerable mountain streams, the Shee and the Airdle. The Shee is formed by three torrents descending from the southern declivity of Cairnwall and the contiguous mountains of the Central Grampians: it runs through a narrow and deep glen which in few parts admits cultivation, till it has passed Mount Blair, which stands between it and the Isla, where it widens, though not to a considerable extent, except at the place where the Airdle joins it. The Airdle is formed by two mountain streams, the Fernate and the Briarchan, which, however, do not rise in the principal range of the Central Grampians, but in that elevated dependent ridge which contains the great masses of Beny-Gloe. Their glens are narrow, but wider than that of the Shee, and admit cultivation, especially Glen Briarchan. The Airdle, formed by their junction, runs through a cultivated valley from one to two miles wide, and by its junction with the Shee forms the Erroch. The Erroch flows through a rocky ravine, and at Craighall the rocks of sandstone rise perpendicularly to an enormous height from the deep and well-wooded banks of the river. At Blair Gowrie the Erroch enters Strathmore and joins the Isla. The whole course of the Erroch and the Shee is upwards of 30 miles*.

The Bran rises on the southern declivity of the high range which bounds Loch Tay on the S. The upper part of its course lies through a narrow glen, which does not admit of cultivation; but about the middle of its course the valley grows wider, and the cultivated ground extending over a part of the gentle declivities of the hills occupies a mile and more in breadth. Strath Bran, however, is on an average 200 feet higher than Strath Tay, and much colder. The Bran joins the Tay opposite Dunkeld, and the whole of its course is little short of 20 miles†.

The Almond, more properly Avon, rises likewise in the southern slope of the mountains bounding Loch Tay on the S., and rather more than one-third of its course lies within the mountain region, where its valley, dreary, wild, and desolate, and everywhere surrounded by naked rocks of considerable height, does not occupy more than from half to three-quarters of a mile in width, and rarely admits of cultivation. Emerging from the mountains it enters Strathmore, and joins the Tay on the right bank, a few miles above Perth. The length of its course amounts to upwards of 30 miles.

The Earn, the most southern of the tributaries of the Tay, is the channel by which Loch Earn discharges its waters. This lake, which is in length about seven miles, and less than a mile in width, is bounded on the S. by Ben Vorlich, which extends in one continued and lofty wall till it terminates at the junction of the Earn and Ruchill. With the exception of Ben Venu, the most striking feature of Loch Kateran, no mountain in Scotland presents a declivity so wild and so varied as Ben Vorlich; with a continued succession of bold precipices,

* MacCulloch in Geol. Trans., First Series, vol. iv.; and Highlands and Western Islands.

* Sketch of a Tour in the Highlands, &c.
† Sinclair's Statistical Account of Scotland.

deep hollows, torrents and woods, disposed in every mode of picturesque distribution. From the mountains which separate Loch Earn from Loch Tay and Glen Dochart, numerous torrents descend into the lake, from which the river Earn issuing, enters Strath Earn, on each side of which, in some places, the continuous mountain declivities descend rapidly and suddenly, so as to nearly meet below, and to leave only room for the river and the road: in others they leave a space occupied by flat and wooded meadows, yet varied by undulating ground*. At Comrie Strath Earn widens, and the grandeur and wildness of the mountain scenery are exchanged for the less elevated but more gentle and pleasing prospect of an extensive, well cultivated valley, bounded by slowly rising hills, covered with fine woods. At Crieff the Earn enters Strathmore, and flowing through its slightly undulating plains, discharges its waters, together with the Tay, into the Firth of Tay, after a course of upwards of 50 miles.

The rivers which descend from the Central Grampians E. of 3° 20′ do not join the Tay, but flow immediately to the German Ocean. Among these are the South Esk and the North Esk.

The South Esk rises in the Central Grampians at the bases of the Glasmheol and Glastuluchan with two branches, which for more than 15 miles form two separate rivers, the Prosep and the South Esk, and run in rather narrow glens between high mountains, which are offsets of the Central Grampians. Soon after their junction the river enters Strathmore, and changes its course, which previously had been S.S.E., to nearly due E., in which direction it forms the southern boundary of Strathmore from Oathlaw to Brechin; having on its southern banks the hills which extend from the Sidla Hills to the N.E. At Brechin the South Esk enters the hilly country which skirts that part of the German Ocean, and near its mouth it forms a bay, the Basin of Montrose. The whole course of this river amounts to upwards of 30 miles.

The sources of the North Esk are in the same range of mountains with those of the South Esk, but more to the N.E., at the base of the Lochan na-gar range and the contiguous mountain-masses. As these mountains here, near the termination of the Central Grampians, occupy an extent of about 20 miles from N. to S., and rise to 3000 feet on an average, the numerous rills and rivulets which descend from them run through very high and cold glens for many miles, and do not all unite to form one river before they have arrived at Strathmore below Edzell. The remainder of the course of the North Esk is in the plains of Strathmore, except that the river near its mouth runs through a hilly country for about three or four miles. It flows into the German Sea, after running nearly 30 miles in an E.S.E. direction.

Such is the country and its watercourses to the south of the Central Grampians. To the north of this range, and to the east of the mountain region, some ridges of elevated hills stretch out towards the east to within a short distance from the sea: indeed many of their summits rise to such a height, that they may be called mountains, as the Bennochie, between the Don and its tributary Ury. This extremely hilly and rocky country contains only along the banks of the rivers narrow levels which are fit for the plough. The steep hills and moors afford abundant but by no means rich pasture: they extend from the Central Grampians on the south to the Don and its tributary Ury on the north, comprehending likewise the valleys of the Bogie and of the Deveran before their junction. Like the country to the west of the Southern Grampians, this extensive hilly tract might be called a sub-mountain region; but the two differ widely in character. On the west the summits of the hills expand into extensive flats of many miles in length and breadth: here the surface is continually changing, and exhibits nothing but deep and narrow glens and steep ridges of hills, with moderate levels on their tops*.

Dependent on this difference in the form of the surface, are the numerous watercourses, some of which are of considerable length, more especially those of the Dee and Don.

The Dee rises in the bosom of the Cairn Gorm Mountains, and the glen through which it runs from N. to S. for about 10 miles is extremely deep, narrow, cold, and uninhabited. Issuing from it, the river continues to run with great rapidity in a rocky channel to

* MacCulloch's Highlands and Western Islands. Robertson's Agric. Survey of Kincardine.

* We use the term, as it is now often used, to express the whole mass.

the E.N.E.: agriculture only begins at the farm of Dillavorar, nearly 20 miles from its source. The upper part of the valley is only fit for pasture, but lower down it is covered with immense forests of Scotch fir. Still lower down the valley widens; but even here the flat country along the river is commonly very narrow, and extends only in a few places to a mile in width. Nearly at the middle of its course the Dee flows through a long pass, formed by lofty and steep mountains, at Cambusmay; and from this place to the sea, the valley, though more open and considerably enlarged, is often straitened by high hills, which lie near the river, and sometimes close upon it, so that the flats fit for agriculture are nowhere extensive, except for the last five or six miles of its course. After flowing rapidly upwards of 70 miles, the Dee discharges its waters into the German Ocean below New Aberdeen. Through nearly all its course this river flows along the northern base of the Central Grampians, and has a range of high hills also on the N., which often rise to the height of mountains*.

The Don rises on the edge of the mountain region in the range which, running from the Cairn Gorm group northward, divides the Doveran from the valley of the Spey. The Don soon enters a pretty wide and open valley, with some cultivated fields and extensive pasture-grounds on the neighbouring hills, though the hill surface is in general covered with heath. As the river advances to the E. the hills become lower and the valley wider, and before the junction of the Don with the Ury takes place, the flat tracts along its banks are extensive. After its conflux with the Ury it flows through a level country; but at Stonywood, about six miles from Aberdeen, its course is confined by rocks and very rapid, and thus it continues to its mouth N. of Old Aberdeen. The whole course of the Don, which generally is a rather slow river, is upwards of 40 miles†.

The country north of the Ury and Don, and east of the lower course of the Doveran, which has the sea to the east and to the north, is also hilly; but the hills, with the exception of Mormond, which lies not far from the sea in the north-eastern corner of this district, are comparatively low, not rising in general more than 500 feet above the sea. Besides, their ascent is very gradual, and the level country between them much more extensive: towards the sea these levels change into plains, which in some places extend from 10 to 12 miles inland from the shore. Many of the hills are cultivated up to their summits, and others, where this is not practicable, afford rich pasture for sheep and cattle. Some tracts, however, especially the high hills about the sources of the Ythan, and the upper course of that river, contain much rocky and uncultivated ground.

On the southern boundary of this district a cluster of small lakes occurs about a mile and a half from the shore; but the remainder of the district has such regular slopes, that no lake of any extent is formed on it. The rivers and rivulets, however, are numerous, and among them the Ythan and the Doveran deserve notice.

The Ythan rises in the hilly country which extends along the north-eastern corner of the mountain region, and along the first half of its course the hills rise in some places to nearly 1000 feet, and contain moors of moderate extent: but the country along the river exhibits extensive and well-cultivated flats. The latter half of its course lies, properly speaking, through a plain, the most extensive to the N. of the Central Grampians. The hills are not numerous, and commonly rise only to a few hundred feet, and are arable up to their summits. After a course of about 25 miles in a S.E. direction, it falls into the German Ocean, forming an æstuary at its mouth.

The Doveran rises on the eastern declivity of the mountains which form the north-eastern boundary of the mountain region, and the upper part of its course lies in an open but narrow glen, where the hills frequently rise to 1000 feet and upwards, rarely leaving a flat half a mile broad along the banks of the river, though their slopes are commonly gentle. The general direction of the river in this glen is from S.W. to N.E. After uniting with its tributary the Bogie at Huntley, it runs for a few miles to the N., and afterwards to the E. for a much longer space, returning, however, for the last eight or ten miles again to a northern course. In this lower part of its course the hills that accompany it are still numerous, but they do not rise to a great height, and many of them are arable. This rapid

* Sir T. Dick Lauder on the Inundations, &c.
† Ibid.

river runs nearly 50 miles, and falls into the Murray (properly "Moray," from the old name "Moravia,") Firth at the town of Banff.

The country which extends along the Murray Firth from the sea to the northern boundary of the mountain region, between the mouth of the Doveran and that of the Ness, is a tract of comparatively small breadth, only extending from 12 to 18 miles south and north. The northern extremities of the ranges traversing the mountain region outstep their boundary, and send off ridges of high hills, which in some places advance near to the shore. This is particularly the case between the mouths of the Doveran and the Spey, which intervening space is filled up with elevated plains, covered with heath and moss, and with high hills, as the Binn Hill and the Knock Hill, intersected only by a few narrow, deep, and cold valleys*. Along the shore, a level rarely more than two miles wide, and often less, separates the hilly ground from the sea; but that part of this district which lies to the west of the Spey contains much more level and low ground. Where it is contiguous to the Spey, this level country extends nine miles inland, and not much less more to the west; but in this latter division it is in some places intersected with hills. The soil in this district is of good quality, though the moors occupy large tracts of land, as the Culloden Moor, which, between the river Nairn on one side, and the river Ness and Murray Firth on the other, extends for more than ten miles in length from S.W. to N.E., with a breadth of from two to three miles and is only a sterile moor.

This country, and that part of the mountain region to the south of it as far as the range of the Central Grampians, are drained by the Spey, the Findhorn, the Nairn, and the rivers which run off through the valley of Glenmore.

The Spey and its Valley.

The Spey is in magnitude the third river in Scotland, being the next after the Tay and the Tweed, and draining off the waters of 1300 square miles. It rises in Loch Spey, rather a pool than a lake, elevated 1200 feet above the sea, about 10 miles S. of the southern extremity of Loch Ness, and near the W. end of the Coryaraik Mountains. The river runs for about 12 miles due E. between high mountains, in a narrow and uninhabited glen. Its course then changes to N.E., in which direction it continues to run to its mouth. The upper part of its valley, from the place where it issues from the glen to some miles below Loch Inch, is rather wide, the mountains on each side receding to a distance of some miles, and leaving along the river a flat and mostly level tract more than a mile broad. But as this part of the valley is very high, probably 800 feet above the sea, the grain crops do not always ripen, and therefore the rearing of sheep and cattle is preferred. In this valley, and in those of the rivers falling into the Spey, are the forests of Abernethy and Kingussie, extending in succession 30 or 40 miles: they contained some time ago some of the finest timber in Scotland, and perhaps in Great Britain. Here the Spey flows rather slowly: at least it exhibits nothing of the rapidity of its lower course. Loch Inch, three miles long and one broad, is a fine lake. Issuing from this lake, the course of the river becomes more rapid, and the valley narrower, as the mountains on each side, and principally the Cairn Gorm group, approach much nearer its banks; yet even here the flat tracts of land extending along it are cultivated. On the W. the mountains cease near the junction of the Dulnain with the Spey, and the river becomes less rapid. The mountains of Cromdale still extend along the eastern bank, to the point where the Spey receives its greatest tributary, the Avon. From its conflux with this river the high hills and mountains on the E. approach near its banks, and leave rarely more than half a mile of level ground along its course. But the mountains on the W. are not high; they rise with a gentle slope, and extensive flats are formed on the river banks. One of these flats, the plain of Rothes, extends between hill ranges to the river Lossie; and it is conjectured that this flat, at some remote period, may have been the bed of the Spey*. Near its mouth the plain on the W. extends for nine miles from S. to N., and still more from E. to W.; but on the E. the hills cease only at a short distance from the sea. The lower course of the Spey is by far the most rapid: above the

* Sinclair's Statistical Account of Scotland, &c.

* MacCulloch's Highlands and Western Islands.

church of Aberlour, which is seven miles below the mouth of the Avon, it forms a waterfall of 30 feet; and the fall of its waters from the Boat of Bog to the sea, a stretch of only three miles, is 60 feet. The Spey empties itself into the Murray Firth, after a course of 96 miles, below Garmouth. This long river is not navigable: but great floats of timber are sent down to Garmouth; and to prevent the trees from being shivered in passing the numerous rapids and cataracts, canals have been cut on its banks with a gentle slope, down which the wood is directed. The Spey is the wildest and most capricious of the large rivers in Britain: its variations as to quantity of water are extremely sudden *. In it, as well as in its tributaries, pearl-muscles are found. Among the numerous rivers which join the Spey two are considerable streams, the Dulnain and the Avon.

The Dulnain, the greatest tributary of the Spey on the left, rises in the highest range of the Monadh Leadh Mountains, to the E. of the sources of the Findhorn. The first third of its course lies in a deep, narrow, uninhabited glen; the valley then widens, and is partly covered with wood, and partly affords pasture. It is only along the last third of its course that the river is skirted by narrow flats, which are cultivated. The elevation of the valley renders the crops uncertain. The whole course of this very rapid river may amount to about 25 miles †.

The Avon rises in Loch Avon, which is inclosed by the highest mountains of Great Britain: the Cairn Gorm and Ben Buinac rise almost perpendicularly from its northern and western sides, and the enormous masses of Ben Mac Dhu and of Ben Main overhang its southern extremity; so that the surface of the lake, though 1750 feet above the level of the sea, has no sunshine for several of the winter months. On its banks no shrub—no living creature—is seen. The Avon issues from this lake in a large clear stream, and flows through a deep and dark glen first E.N.E. and then to the N. Its banks begin to be inhabited after it has terminated rather more than half its course; and though the valley by degrees widens to one mile and a half, or even two, it is intersected with numerous hills, and contains only narrow flats. On both sides of this valley the high mountains continue to the junction of the Avon with the Spey, after a course of somewhat less than 40 miles *.

The Findhorn rises in a wide morass, which covers the flat summit of a mountain in the midst of the Monadh Leadh Mountains, at some distance N. of the source of the Spey: it runs first through a deep ravine in the primitive rock, after which it enters a beautiful pastoral glen and valley, bounded by steep and high mountains, but generally covered with rich herbage. Cultivation begins at Dalmigavie, about 15 miles from its source, below which farm the valley in many places is not less than half a mile wide. Farther down it widens even still more, till on the edge of the mountain region it is contracted by the Hill of Pollochock, or the Barns, after having terminated nearly two-thirds of its course. For eight miles the river here runs in a very narrow pastoral glen, inclosed on each side by high and steep slopes. Lower down, the valley is in general wider and more open, but in some places the bed of the river is contracted into a narrow space by the mountains, as at Randolph's Bridge to eight feet: in others it falls over rocks and forms cataracts, as at Esses. Only the last five or six miles of its course lie through a level tract, the plain of Forres: before entering the sea it forms an æstuary, the Bay of Findhorn. This river flows in a direct line of 55 miles; its sinuosities are almost 30 more †.

The Nairn drains the country between Glenmore and the Findhorn. Within the Monadh Leadh range, and in the upper part of its course to Daviot, it lies in a glen of considerable width, bounded by birch-fringed hills, arranged in grand masses, and everywhere exhibiting singularly picturesque outlines. This glen is rather a pastoral than an agricultural valley, and contains many alluvial hills; whence it is inferred that a lake once covered the upper country of Strathnairn, which was gradually drained by a natural excavation of the ravine of Daviot. North of this ravine the valley along its banks is in general wider, and averages from one and a half to two miles. The Moor of Culloden extends to the W. of it, and the hills on the E. decrease in height and

* Sir T. Dick Lauder on the Great Floods, &c.
† Sinclair's Statistical Account of Scotland.

* Sir T. Dick Lauder on the Great Floods, and Sinclair's Statistical Account.
† Sir T. Dick Lauder, &c.

bulk. Towards the sea the valley opens into a plain from two to three miles wide. The Nairn enters the sea below the town of Nairn, after a course of from 30 to 40 miles.

Glenmore *, which separates the northern part of Scotland into two natural divisions, stretches S.W. and N.E. in a straight line across the island: it begins on the S.W. at the Sound of Mull, and terminates on the N.E. at the Suters of Cromarty. It is 112 miles in length, of which 52 are covered by two arms of the sea, Loch Linnhe in the S. and Moray Firth on the N. The greater part of the remainder is occupied by three lakes, Loch Lochy, Loch Oich, and Loch Ness, which, taken together, are 37 miles 701 yards long. The remaining 22 miles 1628 yards are occupied by the artificial navigation of the Caledonian Canal.

Loch Ness, the most northern of these lakes, is 22 miles long: its breadth varies from one and a quarter to three quarters of a mile. On each side of the lake rise lofty, rugged, and steep mountains, to an average height of 1000 feet and upwards. They are irregularly cut into deep gullies with frightful precipices. On its western shore the Mealfourvonny rises to 2730 feet above the level of the sea. The depth of the water is from 106 to 129 fathoms in the middle parts, but near the ends of the lake it decreases to 85, 75, and much less. At the east end the depth is reduced to seven and nine fathoms. The bottom of Loch Ness is soft mud, of a dark brownish colour when wet: this mud has been washed down by the torrents from the neighbouring mountains. The river Oich, issuing out of the north angle of Loch Oich, falls into Loch Ness at its southern extremity near Fort Augustus, and at its northern extremity the great lake, after being first contracted into a smaller lake, one mile and three-eighths long, called Loch Doughfour, discharges its waters by the river Ness, which flows through an open valley, the hills on both sides decreasing in height and in steepness till it reaches the Moray Firth below Inverness, after a course of about six miles, including Loch Doughfour. The river Ness is joined on its right bank by a stream which comes from Loch Ashley, a lake separated from the Strath Nairn by a ridge of hills. Loch Ness is never covered with ice.

East of Loch Ness, and parallel to it, but divided by high rocks, extends Strath Erick, a pastoral valley, about 15 miles long from N.E. to S.W., elevated more than 400 feet above the level of the sea. It is watered by two rivers, the Farrigag and the Feachloin, which enter Loch Ness, and of which the latter, falling from the high rocks which divide the valley from Loch Ness, forms the cataracts of Foyers, or Fyers, the rivals of the waterfalls of the Clyde and of the Tumel in beauty. Two pastoral glens open upon the western shores of Loch Ness, covered in a great part with fine timber, Glen Urquhart and Glen Morrison, of which the latter extends from 15 to 18 miles to the W. into the mountains, and terminates only a few miles from the western coast of Scotland.

Loch Oich, from which the river Oich flows to Loch Ness, is about four miles and a half distant from the latter. It extends, in the direction of Glenmore three miles and a half: its breadth varies from a quarter to one-sixteenth of a mile. Its depth also varies very much, being in some places 26 fathoms, in others not more than six feet: the whole of the bottom of this lake is soft mud. High mountains rise on both sides of the lake, but on the W. the valley of Glen Garry divides the mountain mass about the middle of it. This long, narrow, and deep glen extends due W., between high mountains, more than 20 miles, being separated from the Atlantic Sea only by the rocky and high masses which surround Loch Hourn on the western coast. On the N. side of Loch Garry is a fine forest of birch trees, and on the S., oak and fir timber. Between Loch Oich and Loch Lochy is the watershed, which separates the waters running to the German Ocean from those which flow to the Atlantic Sea. This point, the highest of Glenmore, is only 94 feet above the high-water mark of ordinary spring-tides at Clachnacarry on the E. coast, and 90 feet above the high-water mark at Corpach on the W. coast. This tract, as well as all the land separating this chain of Lochs from each other, and also that which separates Loch Ness from the sea, consists of round, water-worn gravel, the deposit of the mountain-streams, which pour down through the glens.

Loch Lochy is only two miles from the S.W. end of Loch Oich, and extends in length above 10½ miles. Its

* See Parliamentary Reports on the Caledonian Canal, 1823–4, 5, 6.

breadth varies, being at the N.E. end only three quarters of a mile, but it increases from this point, till in the Bay of Arkeg it spreads to about a mile and a quarter. Its greatest depth, which is near the centre, is about 75 fathoms, but it decreases towards each end. On the S.E. shore of the lake the mountains extend in one continued mass until towards the S.W. end of the lake. Along the N. W. side the mountains are cut into deep and sharp gullies, forming lofty precipices, as far as the point where the valley of Arkeg opens, and the river Arkeg falls into a spacious bay. Glen Arkeg extends 16 miles westward, and terminates a few miles from Loch Nevish on the W. coast; but the greater part of the glen is occupied by a lake, Loch Arkeg, which is about 10 miles long, with a breadth of from a quarter to three quarters of a mile.

The river Lochy carries the waters of Loch Lochy to the Loch Linnhe, by a course of about eight miles through an open valley. Though the mountains on the N. W. do not decrease in height, those on the S.E. disappear entirely, and are replaced by an extensive moor, which stretches to the foot of Ben Nevis, and is in part under cultivation. The Lochy is a considerable river, which, together with its tributaries the Arkeg, Spean, and Nevis, drains an area of 530 square miles, of which, however, the valley of the Spean occupies by far the largest part. The Spean rises in the desolate country to the W. of Loch Ericht, and runs for upwards of 10 miles in a narrow and uninhabited glen from S.S.W. to N.N.E., till it turns to the W. and enters Loch Lagan, a lake extending about seven miles in length, with an average breadth of about three quarters of a mile. Issuing from this lake the river is joined on the left side by two other rivers, draining likewise the country between Loch Ericht and Ben Nevis. Of these the Treag brings down the waters of a lake, Loch Treag, nearly equal in extent to Loch Lagan. Farther down the Spean is increased by the Roy, draining Glen Roy, and entering into the Spean on the right. The valley of the Lower Spean is open, and after its junction with the Roy it becomes wide, and in many parts it is fertile, especially in barley. This is the most productive portion of Glenmore. The whole course of the Spean cannot fall short of 40 miles. It joins the Lochy not far from the place where this river leaves Loch Lochy.

NORTHERN SCOTLAND.

THAT part of Scotland which extends to the west and north of Glenmore contains a greater proportion of mountainous country than any other part of the British Islands. The districts which may be called hilly or plain probably do not contain one-twentieth part of its whole surface.

The mountain region occupies the whole of the western coast from Cape Wrath, at the N.W. angle of the island, to the Sound of Mull on the S. On the S.E. it is bounded by Glenmore. A line drawn from the high mass of the Mealfourvonny, standing on the very banks of Loch Ness, nearly due N. to Ben Wyvis, 3720 feet high, at some distance to the W. of Cromarty Firth, and thence to Loch Fleet, a bay intersected by the 58th parallel, marks pretty exactly the boundary between the mountain region and the plain on the shores of the Moray Firth. Northward of Loch Fleet the mountain region extends to the shores of the German Sea, and in this part it occupies the whole breadth of Scotland. But at about 58° 15′ it terminates on the coast with the high ridge of the Maiden Paps, and its boundary runs nearly due N. to Sandside Point, a cape situated on the W. of Sandside Bay, so that the greater part of the county of Caithness lies out of the limits of the mountain region. From Sandside Point, however, to Cape Wrath, the mountains again extend to the shores of the Ocean.

The western coast, as well as that part of the northern and eastern to which the mountain region extends, is indented by deep inlets and bays, which commonly penetrate 10, 12, and even 15 miles into the interior, and by affording shelter to men and cattle against the fury of a stormy sea, render this desolate region habitable. This peculiar formation of the coast is very remarkable, as it is nowhere met with farther to the S., but is repeated on the western coasts of Norway, in Iceland, Greenland, and those parts of America which inclose Hudson's Bay, and extend thence to the North Pole.

The elevation of this extensive mountain region varies considerably. It attains the greatest height about the

middle point between Ben Wyvis on the E. and Loch Torridon on the W., where the base on which the mountain-tops are scattered may rise 1500 feet and upwards above the level of the sea. Towards the N. and the S. the elevation of the whole country decreases, but more towards Cape Wrath than towards the Sound of Mull. As this mountain region varies in different parts in aspect and features, it may be divided in the southern, middle, and northern mountain district.

The southern mountain district comprehends the country stretching between Glenmore and the Atlantic Ocean from the Sound of Mull to Loch Alsh, which separates the island of Skye from the mainland, being bounded on the N. by a continuous ridge of mountains running from Mealfourvonny to Loch Duich, where it terminates in the Balloch Mountains. The peninsula of Morven, which is the most southern part of it, and is formed by Loch Linnhe, the Sound of Mull, and Loch Sunart, exhibits mere heaps of mountains, rude in character, but not remarkable either for their height or forms. But to the N. of Loch Sunart the mountains rise higher and increase in wildness: those which come up to Loch Nevish and inclose Loch Hourn display a degree of rude and rocky desolation almost unequalled in Scotland, and may be considered as the highest mountains on the western coast. Their average height is probably not inferior to that of the Central Grampians. In all this district the line of separation between the water-courses running to the Atlantic Sea and Glenmore lies near the western coast, and almost comes up to the eastern recesses of the sea-lochs. The glens (for they are too narrow to be called valleys) which intersect this mountain region, all extend nearly in straight lines across the country from E. to W., in a regular transverse direction, and are, of course, long towards Glenmore, and short towards the Atlantic Ocean.

The middle mountain district is separated from the plain which bounds it on the E. by a line drawn from Mealfourvonny to Ben Wyvis, and from the northern mountain district by another drawn from Ben Wyvis to Loch Broom. Except some few places on the coast, it may be called one universal mountain, and it is the wildest part of all Scotland, at least if we take into account its extent. The height to which the mountains rise is equal to that of those which surround Loch Hourn; but here the highest mountains do not lie close to the sea, the coast being occupied by the most extensive formation of red sandstone yet known. These red sandstone mountains, which everywhere offer a dismal aspect, do not attain a considerable height between Loch Broom and Loch Torridon, but they rise much higher on the S. of the latter sea-loch, from the shores of which they extend to Loch Carron. Even here, however, the mountains of red sandstone are less elevated than those of gneiss, which occupy the interior of the country. On the latter, the large masses of quartz by which the northern mountains of Scotland are distinguished begin to make their appearance.

Ben Lair, which, in the neighbourhood of Loch Maree, an inland lake, rises to about 3000 feet above the sea, contains a great quantity of quartz, ranging from jet black, through every possible gradation, to snow white, and equally differing in texture and appearance. The gneiss mountains do not here extend in elevated plains, as they do farther to the N., nor in regular ridges, as is mostly the case in the southern district, but they form enormous masses, intersected by ravines in different directions, and are mostly bare, or covered with broken rocks, without trees, and nearly without vegetation. The line of separation between the waters that descend to the eastern and western sea, lies at a distance of about 30 miles from the western coast; but as the mountains do not extend in parallel ridges, but are rather formed in enormous heaps, the waters run off towards nearly every point of the compass. It seems, however, that by far the greatest part of the water originates in the country surrounding Loch Fannich, where probably the greatest elevations of the whole mountain region are situated, because from this district the rivulets run off in diverging directions. Agriculture is nearly unknown in this district, or only followed in a very few favourable spots of small extent: even pasture is scarce, and nearly the whole of the scanty population gain their subsistence by fishing in the sea and lakes.

The northern mountain district, which comprehends more than one-third of the mountain region, and extends from Loch Broom and Ben Wyvis to Cape Wrath and Sandside Point, may be considered

as a high mountain plain, with a gentle and almost imperceptible slope towards the N. and S.E. It is bounded on the E. towards the plain of Caithness, and on the W. towards the Atlantic Sea, by ranges of mountains little elevated above the table-land. The plain itself, between the two mountain ridges, is an extensive moor, an open, undulating land of rocks and bogs. Scarcely a bush is found to enliven the desert; all around is a monotonous waste of brown moor; one bog succeeds another; every stone, rush, and bit of heath is like every other. The moor is intersected by many streams, but unbroken except by round undulations, and without characteristic feature. A few hills rise over the plain at great distances from one another. Such in particular are Ben Hope (3061 feet), Ben Laoghal, Ben Armin (2306 feet), Ben Klibreck (3164), Ben Hi (2858), and others. Towards the northern and south-eastern extremities near the shores, this table-land may be elevated about 300 feet above the level of the sea, but the central part whence the water-course runs off to the S.E. and N. may rise to 1000 feet, and perhaps more. The long valleys by which the northern part of the table-land is intersected have some level tracts along the banks of the rivers, which are cultivated, but the valleys through which the southern water-courses run off are extremely narrow, frequently nothing more than ravines; and it is only near their junction with one another, or at their influx into the sea, that cultivation can be carried on. The heights with which the table-land ends on the northern coast advance too close to the sea to allow any cultivable land along the sea-shore; but along the eastern coast, from the Fleet to the Ord of Caithness, a low country extends from half a mile to a mile in width, which in many parts affords as fine a specimen of improved agriculture (turnip husbandry) as the island can produce.

The mountain range which skirts the table-land on the W. and separates it from the Atlantic Ocean, exhibits between Loch Broom and the Kyle of Assynt properly speaking, likewise an elevated table-land, which, however, rises to a much greater height than the contiguous Dirie Meanach. It appears to have an extreme elevation of 1500 feet above the level of the sea, and over it are dispersed a considerable number of high summits, some of which have the form of a sugar-loaf. The spaces between these mountains are wide, and though they in many places present a brown surface of broken rocks, they exceed the eastern districts in verdure and pasture by many degrees; Ben Spionniue, though it rises to the height of 2566 feet above the sea, grows white clover to the summit. But this description does not apply to the forest of Parph, which extends for many miles up to Cape Wrath, and is a dreary, desolate district. In this part of Sutherland a great number of small lakes are interspersed among the mountains and pasture-ground; the quartz rocks are also very extensive, covering considerable tracts of country, and forming the lowest as well as the highest land. Thus the summit of Ben More Assynt with its extensive limbs, and the range which extends from it northward up to Fionabhein, comprising Stack and Arkle, are covered with a wild but picturesque congeries of pure quartz rocks remarkable for their whiteness, but not in the least resembling snow, to which Pennant and other travellers have compared them. The singularly detached and picturesque mountains of Coul-mora and Coul-beg, of Coygach, Soul-bhein, Canisp and Quen'iag in Assynt, consist of the old red sandstone resting in its horizontal position; and the two last have some quartz stone scattered sparingly on their summits. This red sandstone formation includes the elevated Cape Ruestore of Assynt, and the island of Handa to the north, and forms the west coast of Parph, to within a short distance of Cape Wrath; and it shows itself again immediately to the eastward in the cliff of the Clochmore, which considerably exceeds the Cape in height. To the N. of the Kyle Assynt the elevation of the land, and the number of the mountains rising from it, decrease gradually, till the land terminates on the N. in Cape Wrath, the most north-western angle of Great Britain, which is a majestic pyramid of granite and gneiss, rising about 360 feet or more in height, declining towards the sea in a second and lower pyramidical rock. Under each of these pyramids an arched passage is formed by nature, through which the sea passes. The largest is in the highest rock, and appears to be 70 or 80 feet high.

The mountain range which separates the table-land of Sutherland from the plains of Caithness does not rise to a great height as far as it extends from N. to S., and in this space it does not exhibit any remarkable summit; but it attains a truly mountain character in the

southern parts of Caithness, where it turns to the E., forming two distinct and high ridges, of which the northern contains the Maiden Paps, with the high summit of Morbhein, rising about 2334 feet above the sea*, and the southern terminates with the Ord of Caithness, which advances into the sea.

Only two, and comparatively very small portions of Northern Scotland exhibit what may be called a plain country. The southern extends along the eastern coast between the Moray Firth and Loch Beauly on the S., and the Dornoch Firth on the N., and may be called the Plain of Cromarty, because it includes the most important part of the county of that name. The northern occupies the north-eastern extremity of Scotland between the ridge of the Maiden Paps (lat. 58° 12′ to 15′, and W. long. 3° 10′ to 3° 50′), the Pentland Firth, and the mountains that bound the county of Caithness on the W., and is called the Plain of Caithness, comprehending the greatest part of that county.

The plain of Cromarty consists of two peninsulas and a level tract along the shore which unites them. The southern peninsula, called the Black Isle, extends between the Moray Firth and Loch Beauly on the S. and S.E., and the Firth of Cromarty on the N. and N.W., in a direction from N.E. to S.W. for upwards of 20 miles in a straight line. Its breadth averages from seven to eight miles. The lowest part of it is the isthmus by which it is united to the mainland, and which extends from the western recess of Loch Beauly to the corresponding point of the Firth of Cromarty. This isthmus is hardly in any place more than 50 feet above high-water mark. But on the peninsula the ground gradually rises and forms a flat-backed elevation, called the Meal-buie, which, with an average breadth of two miles, extends to the Suters of Cromarty, and terminates on the high coast extending S.W. of the Suters. The slope of this elevated ground to the N. and N.W. is quite uniform and gradual, but towards the Moray Firth it terminates in some places abruptly and in hills. The back of the Meal-buy is partly wooded, and affords pasture, but its slopes are well cultivated, though the soil is not very fertile.

The northern peninsula, which lies between the Firths of Cromarty and of Dornoch, has the general name of Easter Ross; its western boundary is not exactly marked, but may be fixed by the road which runs from Alness due N. to the Firth of Dornoch. The western and larger portion of this peninsula is a pretty elevated country, called Ard-ross, covered with moor and heath. But to the E. the ground lowers and forms a fine plain, the Plain of Fearn, which stretches across the peninsula from Tain to the most northern bay of the Firth of Cromarty, and declines imperceptibly from N. to S. It is partly cultivated and partly wooded, and a pleasant country. To the E. of this plain the ground rises again gradually till it forms the high coast stretching from Tarbet Ness to the Hills of Nigg, forming the north Suter, at the entrance of the Firth of Cromarty.

The flat tract of land which, skirting the eastern, lower, and gentle slopes of Ben Wyvis, unites these two peninsulas, extends at an average hardly more than two miles in breadth along the Firth of Cromarty; but to the S. of Dingwall, on the banks of the Conan, it increases to about four miles and even more. It has a good, though light soil, and is well cultivated.

The Plain of Caithness comprehends about four-fifths of the county of that name: the most southern districts of the county are mountainous, and belong to the mountain region, which in this part terminates on the sea nearly in the parallel of Dunbeath Castle. The plain extending to the north of this parallel up to Pentland Firth, however, does not exhibit a perfect level. Where it borders on the mountains south of it, it contains many hills of inferior elevation. They form nearly a chain, which terminates on the German Sea in the cape called Clyth Ness. North of this hill range the country extends in wide levels, covered with moors, and sloping gradually to the rivers that traverse them. There are a few insulated hills of no great height. Some of the moors may be from 200 to 300 feet above the level of the sea, and are not cultivated, but many parts of them afford pasture. Agriculture is confined to the large tracts of level land along the water-courses, and to the slopes of the elevated plains. These elevated moorlands sink lower towards the N.E., and terminate in a low plain between Sinclair Bay and Dunnet Bay. From the innermost part of Dunnet Bay there extends a very low tract of land, covered with heath, and rough grass, and above two miles wide, in a straight line to Keiss Castle on Sinclair's Bay. It

* Sedgwick and Murchison in Geol. Trans.

is hardly more than 30 feet above high-water mark in any part; and should the sea rise to such a height, the north-eastern peninsula of Caithness would be changed into an island. North of this tends to the Pentland Firth, where it terminates in the two capes Duncansby Head and Dunnet Head. The greater and more elevated part, which perhaps is 100 feet above the level of the sea, has a light sandy soil; but though it was long neglected, it now presents a good deal of cultivation, which is daily and rapidly improving.

Rivers, Lakes, and their Valleys.

None of the rivers of this portion of Scotland can be called large, the comparatively small extent of the country, and the formation of its surface, not giving them space for a long course. A few of them, however, are still remarkable, especially the Beauly, the Conon, and the Oikel.

The Beauly, which falls into Loch Beauly, or the most western part of Moray Firth, has three sources. The most southern, called the Affaric, rises in the hills, not far from the eastern extremity of Loch Duich on the western coast, and runs to the E. The first 10 miles of its course lie in an extremely narrow and uninhabited glen, between steep and high mountains. The valley then widens, but the greatest part of it is occupied by two lakes, Loch Affaric and Loch Benevach, each from two to three miles long, but hardly half a mile in breadth. On the banks of these lakes the valley begins to be inhabited, but is not cultivated. Issuing from Loch Benevach, the Affaric runs through a wider valley; but cultivation begins only at its junction with the Cannich, another branch of the Beauly, which rises to the N. of the source of the Affaric, and to the E. of Loch Carron, a bay of the western coast. The Cannich runs through a narrow pastoral glen, in which it traverses Loch Moardich, or Moyley, a lake upwards of five miles long, with an average breadth of less than half a mile. At the junction of the Affaric and Cannich their names are lost in that of the Glas Water. Strath Glas is also a narrow valley between steep mountains, but it contains strips of level ground along the river, and is well cultivated. The river is in this valley wide and slow, till it unites with the Farrar, the third and most northern branch of the Beauly, which rises in the wild mountains to the E. of Loch Torridon, and issuing from a ravine, enters Loch Monar, an inland low tract the ground again rises slowly, forming another moor plain, which ex-lake, about four miles in length and half a mile wide. The remainder of its course is through a narrow valley, little fit for agriculture, but well wooded, and affording good pasture, Strath Farrar. After its junction with the Farrar the Glas becomes more rapid, but the valley does not widen considerably until the river reaches Kilmorack, where it forms a fine cataract; and here the valley gradually opens to the S. and N., entering here the Plain of Dingwall, and including on the S. a fine and well cultivated country, called the Aird. The name of Beauly is only applied to the lower part of the river, below the cataract of Kilmorack. The whole course of the river is above 40 miles, and it carries off the waters of a surface of 324 square miles.

The Conon, which drains by its numerous branches the most mountainous part of North Scotland, rises properly in Loch Fannich, an inland lake, inclosed on all sides by very steep, high, and bare mountains. Its banks are almost without vegetation. Its length may amount to about eight miles, with an average breadth of about a mile, and it has doubtless a great elevation above the sea. The river issuing from it, called the Grudy, runs through an extremely narrow and uninhabited glen, till it meets the Water of Sheen, rising at a short distance E. of Loch Maree, which is near the western coast, and flowing through a glen, which, in comparison with those in its neighbourhood, may be called wide, exending in breadth half a mile and upwards, though it is inclosed by high mountains. It is called Strath Bran, and affords excellent pasture for sheep.* After its union with the water of Sheen, the Grudy enters Loch Luichart, which is above four miles long, but very narrow. There is excellent pasture ground on the slopes of the mountains to the S.W. of it. Leaving this lake the river soon joins that branch, which properly is called the Conon, and which rises nearly at an equal distance from the Firth of Cromarty and Loch Torridon. Its course before it joins the Grudy lies through a

* The width of Strath Bran, and its extending to a short distance from Loch Maree, might lead to the conjecture that this part of Scotland is traversed quite across by a deep glen, similar to Glen more, and the glen Shin farther to the north.

narrow pastoral glen, but after the junction the Conon flows through a pretty wide and cultivated valley till it joins the Garve, where the valley joins the Plain of Dingwall. The Garve, which rises on the southern declivities of the high table-land extending to the N. W. of Ben Wyvis and called the Dirie More, or Great Forest, flows in a narrow glen which skirts the western declivities of Ben Wyvis, and only at the S. of this mountain mass becomes cultivable. In the Plain of Dingwall the Conon receives another branch, the Orrin, which originates at no great distance from the source of the Conon, and flows parallel to this river in a narrow pastoral glen, till it enters the plain of Dingwall, about three miles from its mouth. The Conon falls into the Firth of Cromarty, after a course of about 40 miles, and after draining a country extending over 320 square miles.

The Oikel rises in that mountainous country which lies to the W. and S. of Ben More Asynt, with two branches, of which the more southern, called the Enach, originates at a short distance from Loch Broom, on the western coast, and the other, the Oikel, on the W. of Ben More Asynt. The latter, running in a narrow pastoral glen, forms the boundary between Rosshire and Sutherland nearly from its source to its outlet in the Firth of Dornoch. The valley along its course is very narrow, and contains few patches of cultivable land to its junction with the Caslie. So far the river is rapid, but the remainder of its course is slow, and the slope so small that the tide flows nearly to the junction of the two rivers. Here the valley widens, but still more after its junction with the Shin, where the flat country on the northern shore and on both sides of the Kyle is of some extent. Issuing from the Kyle, it expands into the Firth of Dornoch, having previously joined the Carron, a river which, issuing from the Dirie More, in Ross-shire, N.W. of Ben Wyvis, flows in its lower course through a pretty wide and cultivated valley. The Shin is the channel by which Loch Shin sends its water to the Oikel, and as the river forms a cataract near its issue from the lake, and descends rapidly in a narrow glen, the lake must be considerably elevated above the level of the sea. Loch Shin is about 15 miles long, but perhaps nowhere more than a mile in breadth. It covers a surface of 25 square miles, and is inclosed by rather steep acclivities, which conduct to the table-land of Sutherland, and are wide muirs, without trees, cultivation, or inhabitants. From its north-western extremity a narrow glen, like Glenmore, extends across the whole breadth of Scotland to Loch Laxford, on the Atlantic coast, in a direction from S.S.E. to N.N.W. The greatest part of this glen is occupied by lakes, as Loch Geam, Loch Merkland, Loch More, and Loch Stack, of which the two last lie to the N.E. of Benmore and Stack. Loch More, the largest of these lakes, is upwards of three miles in length. The whole course of the Oikel amounts to about 30 miles, and it drains a surface of about 300 square miles.

As the watershed between the Atlantic and German Seas lies everywhere at no great distance from the western shores, no large river descends to the Atlantic Ocean; but this part of Scotland contains a few lakes deserving notice. The most northern is Loch Asynt, a winding sheet of water, in length about seven miles, with a breadth hardly more than half a mile where widest, and lying in a wild mountainous country, but having on its shore some strips of cultivable ground at its eastern end. Farther to the S., between Loch Broom and Loch Torridon, lies Loch Maree, which in length is fourteen miles and in its greatest breadth three, though in most parts it scarcely exceeds one. Its area is equal to 25 square miles, and it is bounded by high mountains, and displays some interesting scenery, similar, in some measure, to that of Loch Lomond, its surface being in part occupied by a labyrinth of small islands, covered with scattered firs and with thickets of birch, alder, and holly, and separated from one another by narrow and tortuous channels. The surrounding high mountains add grandeur to this beautiful scenery. It contains a great quantity of excellent trout, and its neighbourhood is the only abode of the grey eagles in Great Britain. Loch Maree discharges its waters by the river Ewe into Loch Ewe, which is a sea loch. Loch Morrer (near lat. 57°) is divided from the sea by a neck of land hardly half a mile wide. It is S. of Loch Nevish and nearly parallel to it, and in length about ten miles, its average breadth being about a mile. The high mountains which inclose it on all sides advance on its southern shores to the brink of the lake, and are very steep; but on the N. their acclivity is less

rapid, and a few spots of nearly level ground skirt here the lake. The most southern of the lakes in this part of Scotland is Loch Shiel, the most western extremity of which approaches Loch Moidart, a sea-loch on the western coast, within a distance of less than two miles, while its north-eastern end is only about three miles distant from Loch Eil, another sea-loch, and a branch of Loch Linnhe; but between the two latter lochs a high ridge arises, and Loch Shiel discharges its waters into Loch Moidart. The whole length of this lake is upwards of twelve miles; its breadth nowhere extends half a mile, and in many parts contracts to less than a quarter. It is everywhere surrounded by rude, bare, high, and steep mountains, and covers a surface of sixteen square miles *.

* See Statistical Account of Scotland, by S.J. Sinclair; General Report, by the same; the different Agricultural Surveys; Mac Culloch's Highlands and Western Islands.

CLIMATE.

On the Climatology of Great Britain we have nothing more to say than is contained in the following tables, for which we are indebted to numerous friends; and to several printed works. It is hardly necessary to say that any attempt to form a complete article on the Climatology of Great Britain cannot yet be made. We have, therefore, contented ourselves with collecting the following facts, and giving the accompanying references.

Place.	Mean temperature.	Years from which the mean temp. is deduced.	Highest observed temperature.	Lowest observed temperature.	Winds.	Rain, in inches.	No. of years from which mean is deduced.
Saint Andrew's [1]	48° 01	8 years, 1821—1828 inclusive.	88° Fahr June 25, 1826, at 3 P.M.	18° Fahr Jan 3, 1827, at 10½ A.M.	Westerly, except in the spring and early summer months, when easterly winds prevail	not observed	—
Aberdeen [2]	47° 648	10 years. 1823—1332 inclusive.	only for 1831 and 1832. 74°·6 Fahr. July 30, 1831, at 8 A.M. 67°·5 June 14, 1832, at 8 A.M.	for 1831, 1832. 20° Jan. 30, 1831, at 8 A.M 29°·5 Dec 28, 1832, at 8 A.M.	—	27·37 observed at Marischal College, Aberdeen.	4 years, 18[illegible] 1832 inc[illegible]
Dumfries [3]	42° 327	9 years, 1825—1833 inclusive.	—	—	—	33·54	7 years, 1827—1833
Inverness [4]	48° 09	13 years	no exact observation.	1° below Zero of Fah Jan. 15, 1814	W. & S.W. .478 S. & S.E. ... 80 E & N.E. ..237 N. & N.W. .205[6] 1000	26·21.[5] The annual quantities vary from 23·33 and 34·5[6] to 1.	7 years
Bristol [7]	—	—	highest observed in 4 years, 1830—1833, 84° Fahr., Aug. 1832. May 1833	lowest observed in 4 years, 12° Fahr. Dec. 1830	W. & S.W..159½ S. & S E. ...58¾ E. & N.E....75½ N. & N.W...61¼ 355½[8]	31·52[9]	2 years, 1832—1833[10]
Derby [11]	day, 54°·11 night 41°·59 for the year 47°·85	40 years	92° June 27, 28, 1820, wind N.W.	15° Dec. 28 (in the day), 1798, wind N.W.; Dec. 28 (in the night) 3° wind N.W.	W.&S.W.·340312 S. & S.E. ·238715 E. & N.E. ·155539 N & N.W.·265434[12] 1·	24·77[13]	25 years
Carlisle [14]	47°·45	24 years, 3 times a day	85° Fahr. May 25, 1807	2° Jan. 17, 1814	prevailing winds W. S.W. S. and S.E.[15]	30·571	24 years, 1801—1824
Kendal [16]	—	—	84°, highest observed for last 12 years	9° lowest observed for last 12 years	W. & S.W.. ·6053 S. & S.E.. ·0602 E. & N.E.. ·0958 N.& N.W.. ·2382[17] ·9995	56·235	12 years, 1822—1833
Wingham, Kent [18]	—	—	—	—	—	26·85[19]	8 years, 1826—1833
Perth	48°·131 [20] by Six's ther.	9 years	—	12° below Zero of Fah. night of Jan. 17, 1820.	N. & N.E..... 137 E. & S.E..... 996 S. & S.W.... 957 W. & N.W...1197 3287[21]	23·01 [22]	9 successive years

Place.	Mean temperature.	Years from which the mean temp. is deduced.	Highest observed temperature.	Lowest observed temperature.	Winds.	Rain, in inches.	No. of years from which mean is deduced.
Oxford [23]	—	—	—	—	N. .... ·0138 N.E. ...... ·1863 E. .... ·0227 S.E. .... ·1585 S. .... ·0403 S.W. ...... ·3616 W. .... ·0325 N.W. ..... ·1813 1·0000	—	—
Stockport [24]	—	—	—	—	Prevailing winds westerly & S.W.	34·9 [25]	3 years. 1831—1833
Carisbrook, Isle of Wight [26]	—	—	87° July 1831, 81° July 1832, 86° July 1833	20° Jan. 1831, 18° Jan. 1832, 24° Jan. 1833 [27]	S W. & W. [28]	30·95 [29]	3 years, 1831—1833
Plymouth [30]	52°·1 [31]	6 years	85°	20°	N. .... 280 N.E. .... 90 E. .... 298 S E. .... 119 S. .... 219 S.W. .... 288 W. .... 522 N.W ...... 178 Variable & calms... 197 2191 [32]	36·9 [33]	6 years, 1826—1831
York	48°·17 [34]	25 years.	—	—	N. .... 34·1 N.E. .... 36·1 E. .... 27·3 S.E. .... 34 2 S. .... 37·6 S.W. ...... 76·7 W. .... 67·7 N.W. ..... 45·5 [35]	23·62 [36]	15 years.
Glasgow [37]	47°·75 [38]	—	—	—	—	22·4 [39]	31 years. 1802 1832 inclusive.

[1] Thos. Jackson, Esq.; hours of observation 10 A.M. and 10 P.M. No other maxima or minima observed except at these hours, with the exception of June 25, 1826.

[2] Mr. G. Innes, astronomical calculator, Aberdeen; hours of observation 8 A.M. and 9 P.M. The printed tables of Mr. G. Innes contain also the barometrical observations: and one registered observation each day as to the direction of the wind, but no attempt has been here made to deduce any general law.

[3] Dr. Bushnan, Dumfries.

[4] Geo. May, Esq., superintendent of the Caledonian Canal; communicated through J. Loch, Esq., M.P. The true average temperature at Inverness is believed to be about 47°. One remarkable spring near Inverness, which is within a few feet of high-water mark, is uniformly 47° throughout the year.

[5] This is an excellent rain-gauge kept by Mr. Adam, rector of the Royal Academy, Inverness; but, as appears from the table, it has been only kept for a few years. In August, 1829, memorable for the great floods, 8½ inches of rain fell, of which about 2½ inches fell on the 2d and 3d, and about the same on the 26th and 27th. These heavy rains were accompanied by violent storms from the N. and N.E.

[6] These results are deduced from upwards of 13,800 observations, made between Jan. 1, 1805, and Dec. 31, 1824. It appears that the westerly winds greatly prevail; and our authority states that if there were any means of estimating the relative force of the winds, the proportion in favour of the W. would be much greater. With some occasional exceptions, the only steady and strong winds at Inverness are from the W., S.W., and N.W: those from the E. are generally light sea-breezes. S. and W. winds are accompanied with soft and open weather; E. and N. winds with dry weather and frost.

[7] Results of a meteorological journal kept by E. Jones, Esq., Bristol; communicated through Mr. Estlin, Bristol. These results contain one maximum and one minimum for each month, by a self-registering thermometer.

[8] Under each month the "Results"

contain the number of days during which the wind blew from one of the eight points. The number of "variable" days is also given under each month. The average for the four years of the days marked "variable" is of course 9¼.

[9] This pluviometer (by Howard) is kept, as well as the thermometer, in a garden on Kingsdown, about 200 feet above the bed of the Avon. A pluviometer kept at the Bristol Philosophical Institution showed 29·84 inches for 1832, while that on Kingsdown showed 28·91 for the same year. The register kept at the Institution (from 1827 to 1833 inclusive, leaving out 1831, which is incomplete) gives an average of 32·88 inches.

[10] The year 1831 is given in the "Results," but the month of March is wanting.

[11] The tables from which these facts are taken were commenced by the late Thos. Swanwick, Esq., July, 1793, and continued by his son, Jno. Thos. Swanwick, from March 1814 to the present time; communicated through E. Strutt, Esq. M.P.

[12] The order in which the winds prevail here is S., W., (which two are nearly equal,) S.W., N.W., and N. The results are deduced from 15,906 observations made during the last 38 years.

[13] From 50 years of observation at Chatsworth, Derbyshire, between 1761 and 1810 inclusive, it appears that the yearly average of rain, including melted snow, is 28·411 (Farey's Derbyshire). The difference between Derby and Chatsworth is easily explained by the mountainous character of the latter place. In 1828, the wettest year, there fell at Derby full 31·18 inches: in 1826, the driest year, 15·14 inches. The greatest quantity of rain collected in 24 hours, July 9, 1828, was 3·58 inches.

[14] Dr. Barnes, Carlisle.

[15] For 23 years, 1802 1824.

[16] Samuel Marshall, Kendal. (The average annual quantity of rain at Keswick, Cumberland, as deduced from 7 years' observation, is 67 inches.—Young's *Nat. Phil.*)

[17] The W. wind prevails about nine months in the year, according to the result of 12 years' observations. Though the statement as to the winds is for one year only (1833), it is a fair average of the results of the 12 years' observations.

[18] The late Wm. Sankey, Esq., Wingham, Kent, 6 miles E. of Canterbury.

[19] Maximum in 1829 was 36·03 inches; minimum in 1832 was 20·49 inches.

[20] The mean annual minimum temperature for 9 years was 14°; and the mean annual maximum temperature 77°·22.

[21] The numbers express the number of days the wind blew in these directions for a period of 9 years, or 3287 days.

[22] The minimum for the 9 years was 15·59, and the maximum 31·10. In 1831, the quantity of rain that fell in July, August, and September, was 15·2 inches. The mean annual number of days on which it either rained or snowed during the 9 years was 150.

[23] The remarks on the wind are from the Rev. Mr. Slatter, of Rose Hill, near Oxford. The place of observation is about 50 feet above the adjoining Thames, and about * 300 above the level of the sea. The direction of the wind was judged of from the clouds. The observations are from August, 1831, to the end of 1833, omitting July and August, 1833. The southern half of the compass : N. do. :: ·5634 : ·3814 ; and W. half of the compass : E. do. :: ·5784 : ·3675. Communicated by Professor Powell.

[24] The information as to the rain is from a rain-gauge kept by Thos. Ashton, Esq., Flowery Field, 5 miles E. of Stockport, 7 miles E. of Manchester, 365 feet above the level of the sea at Liverpool. Flowery Field is not much higher than Stockport, in the valley through which the Tame descends to its junction with the Goyt at Stockport; and it is on the W. side of the Derbyshire and Yorkshire hills.

[25] In 1833 the fall of rain was 41·1; in June, 1833, the fall was 7·1 inches. (Communicated by H. Coppock, Esq., Stockport.) (The average annual fall of rain at Manchester, as deduced from 33 years' observations, is 36·? inches.—Young's *Nat. Phil.*)

[26] Abraham Clarke, Esq.

[27] Rutherford's Register Thermometer by Newman: no accurate estimate of the mean temperature yet obtained.

[28] No sufficient observations yet made to give the proportions of the different winds; but the general fact of S.W. and W. winds prevailing is unquestionable.

[29] By Newman's rain-gauge.

[30] The observations are by W. S. Harris, F.R.S., Plymouth; communicated by E. Moore, M.D.

[31] Deduced from 4382 observations. Thermometer placed in an open court, rather sheltered.

* The elevation of 300 feet above the sea appears to be too much. See p. 48, col. 1.

[32] The winds have been deduced from a mean daily observation derived from three or four observations each day. The figures 280, &c., denote days, of which 2191 is the number in the six years of observation.

[33] Rain-gauge observed twice a-day between 8 A.M. and 10 P.M.

[34] Mean temperature of York, deduced from 25 years' observations, by Jonathan Gray, Esq., and corrected in conformity with the results of Brewster's hourly observations at Leith (1824-5): these results apply to all the plain of York, and are only a very little modified by the elevation of the ground in the E. and W., for 15 miles: communicated by J. Phillips, Esq., F.R.S., &c. York.

[35] From ten years of observation by J. Gray, Esq. The numbers denote the number of days in the year that each wind is observed to blow. E. and N.E. winds are more frequent about the vernal equinox, than at any other time of the year: W. and S.W. winds prevail from June to September.

[36] Observed by J. Gray, Esq.: this is the quantity of rain that falls on the ground at York at an elevation of 35 feet above the sea. This may be taken as the value for all the plain of York, and a considerable distance to the east and west. The quantity of rain, including snow, that fell at York, from Feb. 1832 to Feb. 1833, was 24·401 on the ground, and 15·910 on the top of the Minster, about 209 feet above the ground. See Report of the third meeting of the British Association, p. 401, &c.

[37] Communicated by Professor Mylne, Glasgow.

[38] As determined by Professor Thompson: that of Edinburgh, as determined by Professor Playfair, is 47°·7. The mean temperature of Leith Fort (as determined by the observations, made every hour of the day and night, during the two years 1824-6) was 48·36; that of the respective years was 47°·81, and 48·911. (See Edinburgh Journal of Science, No. ix., 1826.)

[39] The least quantity in the 31 years was in 1803, being only 14·468: the greatest, 28·554, was in 1828. The greatest quantity in any one month was 6·129 inches, in November, 1824. The rain is collected in a gauge constructed by Crichton. The gauge is placed on the top of the Macfarlane Observatory, about 100 feet above the Clyde, and is on a plain at some distance from any houses, and not overlooked by any trees. The register has been most accurately kept, for the last 30 years, by Dr. James Couper, Professor of Astronomy.

Remarks. It is stated by Professor Thomson, of Glasgow (Annals of Philosophy, vol. xii., p. 376), that the annual quantity of rain which falls at Dalkeith Palace, six miles from Edinburgh, is uniformly greater than the annual fall at Glasgow. The quantity of rain which falls at Liverpool is considerably more than what falls at Glasgow: since the death of Dock Master Hutchison, no uniform * observation on the meteorology of Liverpool has been carried on; and we cannot, therefore, compare the quantity of rain at the two places for the last 31 years. The quantity of rain which fell at Liverpool in the following years is, 1787, 37½; 1788, 24⅛; 1789, 48½; 1790, 42¾; 1791, 45⅜; 1792, 54½. (James Cleland, Glasgow, 30th Jan., 1833.)

The average of these 6 years is 42, which is higher than the average of Stockport, from three years' observations; but no safe conclusion can be arrived at, as to Stockport and Liverpool, from these data. The average fall at Liverpool is given at only 34·4 inches, deduced from 18 years' observations, in Young's Natural Philosophy.

Among several valuable observations communicated by Professor Mylne from Dr. Cleland, the following are taken:

Jan. 14th, 1780, at 6, A.M., the thermometer, suspended in the open air at Glasgow, stood at 46 below 0.

March 12th, 1782, the Clyde rose at Glasgow 17 feet ½ inch above low-water mark, which was the greatest flood ever known in that river.

In 1785, there was the longest continuation of frost ever remembered. After remaining 176 days, the ice on the Clyde broke up on 14th March. On 25th June, in the same year, the mercury in the shade was at 85°.

In 1807 there was no frost, except a little during one night. Since that time the Clyde has been frequently frozen, so that loaded carts have crossed it at Glasgow.

* Perhaps this remark of Dr. Cleland is not quite correct at the present date. The actual dock-master of the Prince's Dock, Mr. Thomas Hodgson, has obligingly allowed us to see the Meteorological Register for the Port of Liverpool, kept at the Prince's Dock. The Register contains the Water, Winds, Barometer, Thermometer, with general remarks on the weather. As this Register, as far as we have seen, only comprises three years, we have thought it better not to make any use of it at present.

A METEOROLOGICAL SUMMARY FOR EPPING, ESSEX, 51° 41′ 41″·6 N. LAT., 6′ 15″ E. LONG.; ALT ABOVE THE MEAN LEVEL OF THE SEA AT SHEERNESS ABOUT 390 FEET.

Years.	Temperature.				Wind.				Yearly depth of Rain.	Greatest Monthly fall of Rain.	Least Monthly fall of Rain.
	Times of Max. & Min.	Max. Therm	Min. Therm.	Mean at 8 A.M.	N.	E.	S.	W.			
1821	Aug. 21, Feb. 27	81°	22°	47°·2	29	14	40	39	Inches.		
1822	June 10, Dec. 30	90	29	49·1	29	20	36	37	22·632	Nov. 3·847	Jan. ·418
1823	Aug. 13, Jan. 20	78	10	46·2	29	20	37	35	25·339	Feb. 3·318	May 1·007
1824	Sept. 2, Jan. 17	84	26	47·3	30	20	33	39	36·238	June 5·765	Jan. ·910
1825	July 15, Feb. 5	93	25	48·6	30	20	34	37	26·662	Nov. 3·863	July ·008
1826	June 28, Jan. 16	90	13·5	48·8	32	26	32	29	23·499	Sept. 3·471	Jan. ·170
1827	July 29, Jan. 26	85	9·5	47·7	30	21	31	39	25·850	Dec. 4·465	Feb. ·727
1828	July 3, Feb. 12	82	28	49·6	22	25	39	37	28·733	July 5·571	March ·684
1829	June 14, Dec. 28	86	14	44·9	34	25	29	33	30·140	Aug. 6·827	Dec. ·351
1830	July 27 & 30, Jan. 18	85	8	46·0	23	25	34	39	26·229	Sept. 3·752	March ·531
1831	July 29, Jan. 22	82	22	48·7	32	21	37	32	30·927	Sept. 5·197	May 1·511
1832	Aug. 10, Feb. 16	79	24	47·4	29	25·5	33·5	34	22·671	Aug. 3·993	Feb. ·361
1833	May 17, Jan 8&9	83	27	47·5	29	23	29	41	29·227	Feb. 5·062	Jan. ·623
1834	June 21, Dec. 24	86	25	49·5	30	21	35	36	19·871	Jan. 4·521	Oct. ·383
Means		84·57	19·57	47·75	29	22	34	36	26·7706	4·971	·6403

EXPLANATION. It appears by the above table that the greatest heat in the shade within the period of 14 years was 93°, and the least 8°, making the extreme range 85°; the means of the extremes are 84°·57 and 19°·57, giving a mean difference between the summer months (May, June, July, August, and September) and the winter months (December, January, and February) of 65°. Again, the mean temperature in the shade at 8 in the morning, obtained from 5113 consecutive observations, is 47°¾; and for the same hour and number of observations, the prevailing winds appear to be very nearly S.W. Although the mean temperature here obtained for 8 A.M. must, from the position of the thermometer, and the number of observations, be considered exceedingly near

the truth: yet this is certainly below the mean temperature of the parallel of Epping, and it is difficult to say what hour or hours would be most proper for obtaining the same. Much also depends upon a judicious choice in the locality of the instrument. Under these circumstances, I am inclined to think there is no better method for arriving at a certainty in this respect than taking the temperature of water in a shaded well, that is not more than 20 or 30 feet deep, and which is supplied by land springs. A cave or cellar might answer the same purpose, if a regular register of the thermometer in such a situation was kept for a few years. The formula 31 + 52 cos.^{2} lat. gives the mean annual temperature of Epping = 51°·363. During the first 4 years of the journal here, the thermometer was registered both at 8 A.M. and 2 P.M.: these observations taken collectively give the mean=51·2, which is very near that obtained by theory.

The fall of rain has been registered for only 13 years, and the whole depth for that period amounts to 348·018 inches, making the annual fall=26·7706 inches, which is 2·198935 inches for 30 days. It moreover appears that the greatest monthly fall was 6·827, and least ·008, making a difference of 6·819 inches; but the means of the extremes =4·971 and ·6403, difference=4·3306, or say 4·331 inches.

The thermometer used on this occasion is Fahrenheit's: it hangs against a garden-wall, about five feet from the ground, and at a considerable distance from any building. It has a N.N.W. aspect, and is not affected by solar radiation.

The rain-gauge is that adopted by Mr. L. Howard: it is placed in an open situation, about 7 feet from the ground, or 3 feet above the level of the mark from which the altitude of Epping above the sea is reckoned.

It may be proper to observe, that from a considerable number of barometrical observations made here and at Highbeech, it does appear that the two elevations are equal, or very nearly so. Now, from a great number of comparative observations made with good barometers, and under favourable circumstances of atmospherical pressure, the altitude of Epping above the mean level of the sea at Sheerness comes out about 390 feet. Hence, then, instead of Highbeech being 790 feet above the sea, as stated in the Trigonometrical Survey, it is actually not half so much.* In the same Survey, Greenwich is said to be 214 feet above the sea, whereas Mr. Lloyd, by actual levelling, makes it only 153·84 feet.

THOMAS SQUIRE.

Register of Rain kept at the Garden of the Horticultural Society, at Chiswick, about 6½ miles W. by S. of Somerset-House, London, and near the banks of the Thames†, January 12, 1835.

Amount of rain in the last 9 years, according to the register kept at the garden.

	Inches.
1826.....	21·83
1827.....	22·18
1828.....	27·85
1829.....	26·12
1830.....	24·27
1831.....	26·93
1832.....	21·59
1833.....	25·80
1834.....	20·39
Average	24·10

1834.		
Jan....	2·87	
Feb....	0·37	
March .	0·86	
April ..	0·65	
May ...	1·19	
June...	1·63	
July ...	6·34	9·07
August.	2·73	
Sept ...	0·83	
October	0·43	
Novem.	1·75	
Decem..	0·74	
	20·39	

The last season appears to have been the driest of any since the Journal began to be kept—being nearly four inches below the average. Even at this time there are great complaints of a deficiency of water in the springs, which may

* The error here in the Trigonometrical Survey, appears to be a typographical error.
† Communicated by Dr. Lindley, Secretary to the Horticultural Society.

be owing to nearly half of the amount of rain in the last season having fallen in the months of July and August, when, either from falling rapidly, it went off by the surface to the rivers, or was evaporated by the powerful heat at that season, so that little would reach the channels below the sub-soil.

Of the last 9 years, 1828 was the wettest, and next to it, 1831.

Mr. Daniell gives for London an average of .	22·199 In.
And Mr. Howard .	21·46

But the gauge at Somerset-House has often been declared objectionable. Mr. Squire, as we have seen, gives 26·7706 for Epping, about 18 miles N.E. of Somerset-House.

The state of the atmosphere of London, as to weight, temperature, and moisture, is given for every month in the year in the Almanac of the Society for the Diffusion of Useful Knowledge, and it is unnecessary to repeat it here. In this work the averages are calculated for London, but it is added, that they will apply to very large circles around. For further information the reader is referred to the last edition of Mr. L. Howard's 'Climate of London;' London, 1833, 3 vols. 8vo.

The mean monthly temperature of Leith Fort was determined by the hourly observations of the two years already referred to: that of London is deduced from the mean temperature of each month, in each of 20 years, ten (1797-1806) taken in London, and the other ten (1807-1816) in the country near London.—(See Howard's Work.) A comparison of the mean monthly temperature at these two remote places, both on the east side of the island, is given below.

The following are the mean Monthly results for Leith.

	°		°
January	41·091	July	60·361
February	40·621	August	58·372
March	40·865	September	56·312
April	46·379	October	49·226
May	50·012	November	41·791
June	56·091	December	39·775

For London for Twenty Years, from Howard.

	°		°
January	36·34	July	62·97
February	39·60	August	62·90
March	42·01	September	57·70
April	47·61	October	50·79
May	55·40	November	42·10
June	59·36	December	38·71

"The warmest month in the year (at London) therefore differs in its mean temperature from the coldest *on a long average*, about 26½° Fahr.; and this difference is greater by near 2½° in the country, than it is in London."

The mean temperature of the latitude and level of London is given by Mr. Howard at 48° 5′, and that of the metropolis at 50° 5′.

It appeared from the mean temperature of each hour of the day, as determined at Leith, for 1824-5, (each result in which is the mean of 730 observations,) that the temperature was lowest between 4 and 5 A.M., increased with great regularity to 3 P.M., from which time it decreased to its minimum between 4 and 5 in the morning. (Compare Schouw, *Ueber den täglichen gang des Thermometers*. Copenhagen, 1827.)

Captain Smyth has obligingly given us the following results for Bedford, which, when compared with the table of Epping, and the mean state of the atmosphere at London, present some striking differences. Bedford lies in a basin, which, as we have already shown, is separated from that of London by the high lands which run from the east side of the Wash to the Thames, between Goring and Maidenhead.

Abstract of the Observatory Register of Captain Smyth, Bedford.

1828.	Six's Thermometer. Max.	Six's Thermometer. Min.	Six's Thermometer. Med.	Rain-gauge.	Evaporator.	Prevalent Winds.
January	57·7	31·2	41·7	3·389	1·045	S.W.
February	55·0	32·7	41·8	0·977	0·830	S.W.
March	63·5	33·0	44·3	1·594	2·076	N.W.
April	67·5	37·5	48·4	2·540	2·615	S.W.
May	70·5	47·0	56·8	2·891	2·777	East.
June	76·0	50·7	64·4	2·076	3·817	North.
July	77·2	50·2	64·5	3·772	3·705	S.W.
August	74·7	53·0	62·9	2·955	2·870	S.W.
September	74·2	49·0	60·4	2·810	2·925	N.E.
October	65·5	43·5	51·5	1·937	1·910	S.W.
November	57·0	32·0	45·1	2·360	1·315	S.E.
December	55·0	36·0	45·5	2·300	1·200	S.W.
				29·601	27·085	
January (1829.)	43·5	19·0	33·9	2·062	0·805	N.E.
February	46·3	25·0	41·3	1·660	1·128	N.W.
March	57·7	31·6	41·9	0·419	0·479	N.E.
April	54·5	37·5	46·9	4·473	2·086	S.W.
May	70·8	42·0	58·6	0·336	3·240	N.E.
June	71·5	51·0	56·7	4·438	4·541	North.
July	70·8	56·0	62·7	5·872	3·923	S.W.
August	71·9	50·0	61·4	8·852	3·771	S.W.
September	65·3	49·6	57·1	9·367	2·916	S.W.
October	58·5	39·4	48·7	4·329	1·031	N.W.
November	51·0	31·2	41·7	3·691	1·035	N.W.
December	45·0	24·8	35·7	0·244	0·320	North.
				45·743	25·275	
January (1830.)	38·7	20·3	32·8	1·786	0·660	N.E.
February	56·3	23·0	37·5	1·587	1·900	S.W.
March	65·0	33·6	50·8	0·230	4·080	S.W.
April	72·0	33·4	51·7	3·963	3·023	S.W.
May	71·0	46·3	58·6	9·718	3·510	East.
June	70·7	52·5	58·0	3·142	3·265	S.W.
July	88·7	50·0	64·9	2·515	3·844	S.W.
August	74·5	48·4	60·7	2·068	3·529	N.W.
September	63·2	48·0	51·1	2·957	2·349	S.W.
October	66·2	38·6	54·9	0·624	1·002	South.
November	57·2	35·4	46·7	1·698	1·620	S.W.
December	47·9	22·0	36·8	1·980	0·760	N.W.
				32·268	29·542	
January (1831.)	46·9	29·7	36·8	1·527	0·220	N.E.
February	59·2	29·0	43·1	2·592	1·424	S.E.
March	59·8	33·4	47·2	2·662	1·936	N.E.
April	60·2	41·4	52·2	1·167	2·447	N.E.
May	70·8	40·8	56·8	1·553	3·547	N.E.
June	72·2	50·0	62·7	3·020	4·485	S.W.
July	78·1	54·2	65·5	3·203	3·943	North.
August	77·8	58·3	65·7	3·816	4·373	N.W.
September	68·3	51·3	60·0	4·458	2·514	N.W.
October	68·0	42·0	57·6	4·950	2·213	S.W.
November	57·0	29·7	44·8	4·312	1·367	West.
December	52·6	32·8	44·0	4·789	0·892	S.W.
				38·049	29·361	

Abstract of the Observatory Register.—(continued.)

1832.	Six's Thermometer.			Rain-gauge.	Evaporator.	Prevalent Winds.
	Max.	Min.	Med.			
January	47·8	30·3	38·6	1·748	0·517	S.W.
February	51·3	32·0	40·4	0·145	0·669	N.E.
March	57·3	34·3	44·0	4·775	2·319	West.
April	65·0	40·3	50·7	1·811	2·958	N.E.
May	67·1	40·2	54·8	3·206	4·041	N.W.
June	73·5	52·0	62·1	5·087	3·404	N.W.
July	73·0	54·8	64·1	1·879	4·154	N.E.
August	77·3	53·2	63·2	5·599	3·691	S.W.
September	69·8	48·4	59·2	0·854	2·511	S.W.
October	66·6	45·3	54·5	6·898	2·458	N.E.
November	57·5	39·2	45·4	3·007	1·149	N.E.
December	52·8	34·3	42·5	3·939	1·131	S.W.
				38·948	29·002	
January (1833.)	41·4	30·0	35·6	0·881	0·189	N.E.
February	56·0	33·0	41·0	4·933	1·564	S.W.
March	53·2	32·0	40·4	0·331	1·338	N.E.
April	61·3	39·4	49·5	1·880	2·769	North.
May	74·4	46·2	62·8	0·418	5·245	N.E.
June	73·1	53·6	61·4	2·042	4·819	S.W.
July	75·3	53·4	62·2	1·599	4·138	West.
August	67·6	51·7	59·3	3·388	3·622	N.W.
September	65·6	47·2	57·7	1·260	2·819	N.W.
October	63·7	42·4	53·6	1·826	2·057	S.W.
November	58·7	33·2	46·5	1·508	1·575	S.W.
December	55·0	35·4	45·7	1·926	0·894	S.W.
				21·992	31·029	
January (1834)	58·9	35·6	47·2	2·599	1·501	S.W.
February	53·7	31·9	43·7	0·512	1·397	S.W.
March	56·8	41·0	48·2	0·341	2·170	S.W.
April	57·2	38·7	49·8	0·709	2·880	N.E.
May	67·5	50·3	58·7	0·805	3·823	East.
June	76·3	52·0	62·5	0·821	5·811	S.W.
July	78·7	56·8	66·3	2·032	3·799	S.W.
August	75·2	52·0	65·1	1·482	3·804	North.
September	68·6	50·4	60·8	3·115	2·849	N.E.
October	71·0	40·0	53·4	1·148	2·211	N.W.
November	64·0	37·3	46·6	1·710	1·549	N.E.
December	52·3	33·2	42·4	0·512	0·809	N.W.
				15·786	32·603	

The following results for the Barometer and Hygrometer are deduced from the observations supplied by Captain Smyth.

	BAROMETER.		HYGROMETER.	
	Max.	Min.	Max.	Min.
January	30·31	29·03	92·1	65·3
February	30·27	29·20	89·0	55·3
March	30·36	29·31	83·5	40·8
April	30·23	29·22	71·5	40·1
May	30·26	29·42	65·1	34·9
June	30·21	29·49	59·8	56·7
July	30·18	29·52	60·3	39·8
August	30·20	29·35	63·3	41·2
September	30·28	29·32	67·3	42·4
October	30·30	29·40	77·8	44·3
November	30·28	29·27	84·5	55·1
December	30·30	29·30	88·3	64·4
Mean	30·27	29·32		

We have not been able to obtain any satisfactory information as to the counties of Norfolk and Suffolk, which belong to that division of the island described at page 43, &c. It appears from the Philosophical Transactions (vol. 58, A.D. 1763), that the average annual fall of rain at Norwich for 13 years (1750—1762), was 25·38 inches: the greatest annual quantity was 29·38, and the least 20·18. The average annual fall at Lyndon, Rutland, is given at 21·3 inches, from 21 years' observations. (Young's *Nat. Phil.*). The average annual fall at Bedford for the seven years (one of which is a remarkably dry year) is 31·77; from which it would appear that there is more rain at Bedford, which is in the basin of the Wash, than at either of the two other places which belong respectively to a different, but adjoining, physical division of the island. But the mean annual fall at Oundle, in Northamptonshire, on the Nen (from 14 years' observation), is only 23 inches. (Young's *Nat. Phil.*)

We have been unable to obtain much information as to Wales. The following which is furnished by the kindness of Mr. J. Taylor, F.R.S., gives the quantity of rain at one place in N. Wales during six years, and also the quantity during the same time for a place which belongs to a completely different mountain system.*

	Coed Ddû.	Grassington
1828	35	——
1829	36·2	35·1
1830	40·3	35·92
1831	31·5	36·43
1832	36·46	33·23
1833	46·27	35·06
1834	37·77	33·25
Mean of 6 years	38·08	34·831

Mean quantity of rain for the several months during the six years.

	Coed Ddû.	Grassington
January	2·33	0·716
February	2·38	1·998
March	1·67	2·07
April	2·59	2·34
May	1·67	1·552
June	3·74	4·266
July	4·63	3·25
August	4·91	4·25
September	3·42	3·19
October	3·44	2·68
November	3·88	4·186
December	3·58	3·23

* Coed Ddû, in Flintshire, is situated about four miles from the town of Mold, in the direction of Denbigh. It is to the east of the chain of mountains which divide the vale of Clwyd from Flintshire. The rain gauge is in an open space in a garden, about 500 feet above the level of the sea. Grassington is a little town in the West Riding of Yorkshire, about ten miles north of Skipton. The rain gauge is about sixty or eighty feet above the river Wharf which flows at the foot of the town.

POPULATION.

The population of Great Britain at present consists of a mixture of many different nations. This fact is capable of historical demonstration, and is perfectly in harmony with the inference which may be deduced from the composition of the English language, and the physical character of the people who speak it. So great is the variety in stature, conformation of face, hair, and complexion, that it is now almost impossible to say what are the characteristics of an Englishman in the largest towns, and in places where there is much commerce.

But in the agricultural districts, owing to various causes, which prevent any great change in the component parts of the population—and among these we may reckon the operation of the old poor-laws—the characteristics of the German, or Gothic, descent, in the tall, robust frame, ruddy complexion, and light hair still prevail, wherever the breed exists uninjured by poverty, bad food, and disease.

Such are the general characteristic features of the inhabitants of England and of the Lowlands of Scotland. But in the Highlands of Scotland, and in the Principality of Wales, and in some districts of Cornwall, we find that the frame of the body is, in general, more slender and less powerful, and the hair and the eyes dark. All this indicates a different race, a conjecture which is corroborated by the prevailing languages of Wales and the Highlands, which exhibit in their structure and roots such a diversity from the English, as to remove all doubt respecting the different origin of both people *. The Cornish language, now extinct, was closely related to the languages of Wales, and of the Highlands; numerous names of places in this corner of the island still exist to confirm this historical fact.

It is generally admitted that the present inhabitants of the Highlands of Scotland and of the mountains of Wales are the descendants of that nation, or of those nations, which first occupied the island, so far as historical evidence goes. The strongest proof is drawn from their geographical position. They occupy the mountainous districts of the country, from which the native inhabitants are less subject to be expelled than from the plains. Besides, they are settled on the western shores of the island, which open to the vast expanse of the Atlantic Ocean, and this side of the island could not be reached by sea in any great numbers except by a people already considerably advanced in the arts of civilization. The reverse is the case with the English, and the Lowland Scotch. They occupy the plains and the hilly districts, and have only taken possession of those mountainous portions which are detached from the more extensive mountain systems, and are of comparatively small extent. Farther, the country possessed by them is separated from the continent of Europe by a sea so narrow, that it is properly only a gulf or arm of the ocean. This gulf might easily be traversed in small barges, by a people very little advanced in navigation and other arts, and thus the island might be invaded by nations inhabiting the opposite shores of Continental Europe.

When Cæsar invaded South Britain, B.C. 55, he found the island, so far as known to him, divided between two nations. The tribes that he attacked were people of German blood, who had passed over from that part of the continent which approaches nearest to England. But the inland country was still in possession of the aborigines [Cæs De Bell. Gall. v. 12], who, according to his information, were quite a different race of men. Though the Roman general crossed the Thames and advanced a considerable distance into the country, he had no opportunity of having any intercourse with the aborigines, which evidently proves that at his time the people of German origin had already taken possession of a very considerable extent of the plains and of the hilly country. The accounts of later Roman writers give us no indication of the boundary-line which separated the two nations, and we are consequently unable to determine how far the German race had extended into the west and towards the north.

The first name by which the island was known to the Romans was Albion, a term which can be explained from the Gaelic, and which is still the only native name by which the island is known to

* By 'different origin' we mean different within historical limits. A comparison of the languages here referred to indicates a remote affinity, as much as it disproves a near (in point of time) relationship.

the Gael of Scotland [Plin. iv. 16]. The name by which the whole group of British islands was known to the Romans was Britannia, which is also doubtless a Celtic term; afterwards Britannia was used as the name of the island now called Great Britain, of which Caledonia was the northern part. Though the Germans, at the time of Cæsar, were in possession of probably more than the eastern half of South Britain, there is sufficient proof that the inhabitants of Wales, or a people akin to them, at some remote period, occupied the whole island. The etymology of many names of mountains and rivers can only be explained by tracing them to their language. On the other hand, the names of the towns, villages, and places, at least in South Britain, as a general rule, can only be derived from the Gothic languages.

This circumstance, combined with the observation of Cæsar, that the Belgæ who were established in Britain cultivated the ground, while the aborigines lived upon the produce of their flocks and of the chace, seems to indicate the manner in which the settlement of the German race had been effected. The Belgæ, when they first settled in Britain, were probably acquainted with the art of cultivating the soil, and drove into the interior, without difficulty, the aborigines, who were unable to make an effectual resistance, from being divided into a great number of small tribes, commonly at war with one another, and, for want of political institutions, unable to unite against the invaders. In progress of time the Belgæ increased by new settlers from their native country, and by the growth of population consequent on the introduction of agriculture, gradually extended farther inland, and at last confined the original inhabitants, who continued to adhere to their old manner of living, to the more sterile and mountainous districts. Hence it happened that the two nations did not unite so closely as to form one nation, and to adopt a common language, and that the English language contains comparatively few words which are derived from that spoken by the aborigines of the island.

This conjecture respecting the settlement of the Belgæ in Britain may be illustrated by what happened in North America on the establishment of the English there. The native tribes, feeble, disunited, and without fixed habitations, gave way to the new settlers, and retired inland; and though by far the greatest number of the rivers and mountains have retained the names which they received from the aborigines, comparatively few names of towns, villages, or other places derive their names from the Indian languages.

The first settlement of the Belgæ must have been effected a considerable time before the arrival of Cæsar. It has been conjectured that it took place four centuries before that remarkable event, which is not unlikely when we consider, that, at the invasion of Cæsar, his progress was opposed by numerous armies, and that the Romans had to fight a great number of battles before they completely conquered even South Britain. This clearly proves that the island had been inhabited for a long time by a nation cultivating the soil.

The progress which agriculture had made in England at the time of Cæsar's invasion, entitles us to make another conjecture, much more important, when we consider the present population of Britain. It brings us to the supposition, that the great bulk of its present inhabitants derive their origin from the Belgæ of Cæsar. Though there are numerous instances on record, that nomadic or hunting tribes have been entirely annihilated or obliged to abandon their original country, no instance occurs in history of such a misfortune ever befalling an agricultural nation. The obstacles which human nature opposes to such an event are obvious, and the above-mentioned conjecture respecting the present population of England, is strongly confirmed by the evidence of our historical records, which expressly state that all the subsequent invaders of Britain appeared only as conquerors with armies, and never as settlers with families.

The Belgæ, who according to Cæsar, occupied South Britain at the time of his invasion, had passed over from the Belgæ and German people, who inhabited the northern part of the Roman Gallia (De Bell. Gall. ii. 4.) But it is not improbable, that either contemporaneously with the settlement of the Belgæ, or soon after their arrival, some districts of the southern coast had been occupied by some feeble tribes of Celtic origin, who passed over from the shores of Gaul, opposite to England. This fact seems to be indicated by the names of some of the tribes mentioned by Cæsar and by subsequent historians. They

seem, however, to have formed a comparatively small portion of the then population.

The people of German origin seems to have extended considerably towards the north, and it can even be proved by historical evidence, that they had occupied the South of Scotland.* Tacitus (Agric. 11,) expressly says, that the Caledonians were of German origin, and what he adds in support of his assertion clearly shows that he was perfectly well acquainted with the characteristics of the German race. The same historian distinguishes two different nations as inhabiting South Britain, the Galli and the Silures. The latter, whom he calls an Iberian race*, (in which he was perhaps mistaken) were settled in South Wales, and perhaps even in Cornwall, and may, therefore, with propriety be considered as the original stock of the present inhabitants of Wales. By the Galli, Tacitus probably understood, or we at least must understand, the Belgæ of Cæsar, who then inhabited the northern part of the Roman province of Gallia. It is only by confining the expression of Tacitus to this signification that we can bring it to an accordance with the testimony of Cæsar; and in confirmation of this we must observe, that Tacitus calls all the inhabitants of Gallia by the name Galli, though Cæsar had already made a threefold division of them.

Though there is great probability that a German people occupied at a very early period the South of Scotland, the original inhabitants appear to have maintained their ground much longer against the German invaders in the mountain-tract, which stretches from the western shores, opposite to Ailsa Rock, to St. Abb's Head, the eastern extremity of the Lammermuir Hills. In this mountain-tract, and in the districts skirting it, a considerable number of names of places and villages occur, which cannot be derived from any Teutonic dialect, but owe their origin evidently to the Gaelic language. This seems to prove that some unmixed descendants of the aborigines still existed in the villages of these mountains, when agriculture was introduced. But the Highlands of Scotland have probably always been, to the exclusion of every other nation, in possession of the ancestors of that people, which, to the present day, must be considered the true native stock.

The accessions which the population of Great Britain has received since the time of Cæsar, have probably never been so great as to produce any considerable change in the race. Under the early emperors, military settlements were made in England by the Romans, but we cannot reasonably suppose that these conquerors produced more than a slight modification of the population; their language never became the common language of the Britons, who, though often grievously oppressed, still continued to be the bulk of the people.

During the period that the Romans were in full possession of South Britain, the population of its northern division was increased, according to some historical records, by two nations, the Pihts or Picts, and the Scots, both of whom arrived by sea. The facts recorded respecting their invasions are very scanty and obscure. The Picts came, as history tells us, towards the end of the first century after Christ, from the north-east or east, that is from Jutland or Norway. It can, therefore, hardly be doubted that they were of German or Teutonic origin, and belonged to the same stock which afterwards sent over the Saxons. The Picts settled on the eastern coast of Scotland, between the Firths of Forth and Tay, and probably also on both sides of the Sidla Hills, in Strathmore, and also on the south shores of the Moray Firth. They seem to have introduced agriculture, but in some degree to have mingled with the Gaelic inhabitants of the country. The names of places and villages in that tract of Scotland, are derived either from the German or the Gaelic language. Whether the Teutonic names which occur still further to the north, and more especially in Caithness, Sutherland, and on the east coast of Ross-shire, owe their origin to the establishment of the Picts, or to some other perhaps more ancient colony, is a matter which cannot be determined in the absence of historical records. But the fact of such a colony having settled here is proved by the physical constitution of the inhabitants of the northern islands, and of those of the coasts of Sutherland, Ross, Inverness, and the districts along the Moray Firth, all of whom exhibit the characteristics of the German race. The same may be said of the inhabitants of

* See W. Humboldt's Inquiries about the First Inhabitants of Spain. Berlin, 1821.

Caithness, with the exception of those who occupy the mountain tract.

The Scots came from Ireland, and settled on the western coast of Scotland, in Argyleshire. By a comparison of the languages it is proved, that the original inhabitants of Ireland and of Great Britain belonged to the same stock, and, therefore it is evident that the Scots on their arrival in Argyleshire, found that country possessed by a people strongly resembling them in manners and language. This circumstance must have operated powerfully in uniting the invaders so closely to the original inhabitants, as to form one nation. There are even strong reasons for supposing that the Scots did not enter the country as a nation bringing with them their families, and expelling the old inhabitants from the soil, but that they only came over with an armed force, and subjected a people of the same language and stock as themselves. But they have given to Scotland its modern name—no small proof of the extent and permanence of their conquest.

After the Romans had withdrawn their garrisons from Britain, the Britons soon saw their country laid waste by the hostile incursions of the Picts and Scots, who, as it would appear about that time had acquired dominion over all the northern parts of the island. Being unable to defend themselves against these invaders, they are said to have called in the Saxons, who then were settled at the mouth of the Elbe, and in Jutland. The Saxons, it is said, performed the service for which they were called, but at the same time formed a desire to make themselves masters of this fine country*. This they effected in the course of about one century and a half, but it would seem that they only succeeded so far as they found the country inhabited by a people allied to them by language and manners; that is, so far as it was in the possession of the descendants of the Belgæ. It has long been the prevailing opinion of English antiquaries, that the Saxons entirely destroyed the ancient inhabitants, and obliged the small remainder to take refuge in the mountains of Wales and Cornwall. But this opinion is not in accordance with historical facts, or with what we may reasonably presume to have been the case. We are not told that the Angles and Saxons brought with them their families, but, on the contrary, in most instances the number of warriors only is stated, who came to attack and seize on a portion of Britain, or to maintain their countrymen in the possession of such portions as they had previously acquired. But as warriors alone cannot people a country and constitute a nation, it is evident that the Saxons did not destroy the ancient inhabitants. They found them in a condition unfit for warlike enterprises, owing partly perhaps to their insular position, and to long peace, but still more to the great difference in their political views and connexions. Accordingly they assumed the political superiority over a nation speaking a language not very different from their own, and also resembling them in manners. The accession which the population of Britain received by the invasion of the Saxons cannot, therefore, have been very great, at least not such as to have produced a very great change in the original stock of the inhabitants. It is somewhat remarkable that the present name of England (Angleland), should have come from one tribe of the invaders, the Angli, who were probably not the most numerous body of invaders*.

The next invaders of England were the Northmen, commonly though not very correctly comprehended under the name of Danes. For about two centuries they laid waste the maritime districts, and sometimes their incursions extended far into the interior; at last they even acquired the supreme political power, but held it only for a short time. During these repeated incursions a considerable number of Danes must have settled in England, but on account of the similarity of language and manners, in a short time they were so intimately incorporated with the then inhabitants of Britain, that probably after two or three generations their descendants could no longer be distinguished from the rest of the inhabitants.

The most considerable change effected within historical limits seems to have been brought about by the Normans. Though this people were originally also of Gothic origin they had for a long time resided in France, had married French women, and being thus blended

* This tradition as to the Saxons or Jutes (for the former is only a general name) being invited over, seems to rest on little or no authority; it is much more probable that they first came as piratical adventurers.

* See Art. ANGELN and ANGLES.—Penny Cycl.

with the existing population had adopted their language—a proof that the original Norman settlers in France came not as a nation, but only as a band of freebooters. Besides this, a considerable portion of the army with which the Normans invaded England was composed of adventurers from various countries of western Europe, and more especially from France. Thus it happened that the French language became for some time the language of the court, of legislation, and of judicial procedure: all which circumstances effected a considerable change in the English tongue. The number of Normans, indeed, who came over with William was certainly not so great as that of those who afterwards settled in this country during the long period that the province of Normandy remained subject to the kings of England. Still the original invaders and the subsequent settlers must both together have considerably modified the population of this country; but even this change was not so great as to destroy the character of the true stock. This is the last accession of a foreign people that has been incorporated with the English nation by conquest. It may be conjectured that the change effected in the population of England by the peaceful settlement of foreign families has been quite as great as what is due to the forcible occupation of invaders. The geographical position of this island with respect to the neighbouring continent facilitates the settlement of foreigners, and the advantages which it offers for carrying on commerce with every quarter of the world has always induced numerous families from foreign parts to settle here; and these causes are still in active operation. To this circumstance probably more than to any other we must attribute the difficulty of stating, with any degree of precision, the prevailing physical characteristics of Englishmen in large towns and places of great commerce.

Such accessions as these are made slowly and imperceptibly, and it is only when the effects have become apparent that we begin to examine into the causes. The establishment of the Flemings in Wales took place, as far as we can judge from the discordant statements of historians, in the reign of Henry II. About this time a considerable portion of the country of the Flemings had been inundated by the sea, and covered with a stratum of deep sand, which rendered it unavailable for agriculture, and obliged the inhabitants to look for some other home. A considerable number of Flemish families accordingly came over to England; and the policy of Henry II., who was well aware of the independent spirit of the Welsh, and of the necessity of putting a check upon them, contrived to settle them, together with a considerable number of English families, on the south-western shores of Pembrokeshire, where they soon adopted the English language, though they partly retained the manners of their own nation. The impression made by this colony is visible to the present day, and strikes almost every traveller.

Two languages are still spoken in Great Britain. The English language is exclusively spoken by all the people inhabiting the island to the east of the plains of Cheshire, and of Salop, and of the valley of the lower Severn, and northwards up to the mountain region, which skirts Strathmore and the central Grampians. During the long dominion of the Romans the language of the Belgæ probably received a number of Latin words, which however were again expelled by the conquest of the Saxons. The language which was spoken in England after the last event is commonly and reasonably considered as the basis of the present English, and is called the Anglo-Saxon language. This language was subjected to a great change at the Norman conquest, when, as we have already observed, the French language was adopted as the language of the court, of legislation, and of the courts of law. A considerable number of French words and expressions was thus engrafted on the Anglo-Saxon, which the language has retained, with some slight alterations, to the present day. The language has also been much modified within the last three centuries by a variety of causes not mentioned here, because they are not due to the intermixture of a foreign people.

The Gaelic language, which by some is considered as a dialect of the Celtic, and by others as belonging to another stock, is still the prevailing language of Wales and the Highlands of Scotland. But the languages spoken in these two divisions of the island, though they now differ in many respects, can only be regarded as dialects of one tongue. It does not appear, either from historical evidence, or from an examination of the structure of this language, that it has been much changed by the intermixture

of any foreign tongue. The Welsh contains various Roman words, some of which may be dated as far back as the early occupation of this island by the Romans, but perhaps most of them owe their origin to the introduction of Christianity.

The Welsh language has, in some districts, given way to the English, especially in modern times. In some parts of Wales the English was the prevailing language even many years ago. This was more especially the case in Radnorshire and Flintshire, both of which being rather hilly than mountainous, and containing extensive tracts adapted to agriculture, seem to have been inhabited by English families at an early date. The same has taken place, but probably at a later epoch, in the wide valley of the Upper Severn as far as Newton. In the southern half of Pembrokeshire the English became the common speech of the people at the time of the settlement of the Flemings. In modern times the establishment of manufactures in South Wales, especially in Glamorganshire, and the formation of new roads in different parts of the principality, have much promoted the use and the progress of the English language.

A different cause has had nearly the same effect in some part of the Highlands of Scotland, where it has not been produced by the establishment of manufactures, but by a change in the manner of cultivating the ground. The small tenants of former ages have been obliged to abandon their native country, and extensive sheep-farms have been formed, which are now nearly exclusively in the hands of English farmers, whose flocks are generally attended by English herdsmen. Thus it has happened that in many valleys of the Highlands the Gaelic language has entirely disappeared. The efforts of the Society for the education of the Highlands and Islands of Scotland must, in course of time, produce a similar effect.*

General Administration: Civil and Ecclesiastical Divisions of England and Wales.

The † form of government established in the United Kingdom of Great Britain and Ireland is generally called a limited or constitutional hereditary monarchy. This, however, is not an accurate description of the form of government in these islands. The sovereign power resides in a compound body, consisting of three parts, King, Lords, and the Commons' House; of which three parts the members of the Commons' House, who are called the representatives of the people, are in a situation analogous to that of trustees with respect to those whom they represent. Accordingly some writers consider that the sovereign power is vested in King, Lords, and in the large body called the Commons, who elect members to the Commons' House *. The power of making laws is of course vested conjointly in the three parts or members of the compound body, consisting of the King, the House of Lords, and the House of Commons. These three † estates (as they are sometimes, but perhaps incorrectly called), in their collective capacity, form what is called the Parliament, and must concur in every enactment before it has the force of a law. Theoretically, all laws must originate in one of the two houses or chambers; but as the king's ministers are always members of one or both of those chambers, and in that capacity can originate laws, it may be said that, practically, the king possesses the same power. One class of laws, those under which money is levied from the people or appropriated to the uses of the State, must originate in the House of Commons‡, the members of which will never permit the smallest alteration or amendment to be made by the other branches of the legislature in any bill which comes under the denomination of a money bill. The administrative, or what is commonly called the executive part of government, is not exercised by the king alone: the King, the Lords, and the Commons, severally and separately exercise many executive and also many legislative powers, though the legislative

* See Journal of Education.

[Hughes's Horæ Britannicæ; Seyer's History of Bristol; Pinkerton's Celtic Researches; Prichard's Physical History of Mankind, and the authorities already referred to.]

† The first volume of Blackstone's Commentaries treats of the ecclesiastical and civil divisions

'The Province of Jurisprudence Determined," p. 238, &c.

† See Mr. Hallam's note on the Three Estates of the Realm, History of the Middle Ages, vol. iii. p. 157.

‡ See History of the Middle Ages, vol. iii. p. 153, on the precedent of the 9th Henry IV., as to the Commons' exclusive right to originate money-bills.

power, in the wide sense of the term, is exercised by the three conjointly, and the most important of the executive powers are exercised by the king singly.

The choice of ministers, or, in other words, of those through whom the king exercises most of his powers, is made by the king alone; but as it would be impossible for the king's servants to carry any measures through the two chambers if either of those bodies should be unfriendly to the continuance of power in such hands, the choice of the crown cannot fall upon persons generally obnoxious to the country; and, in fact, it becomes necessary for the king to change his ministers whenever they shall so far lose the confidence of the legislative bodies as to be unable to carry through Parliament measures which they consider necessary for the government of the country.

The king is entitled to the allegiance of all persons born in any part of his dominions; nor can any persons so born renounce, by any act of their own, that allegiance, or transfer it to any foreign prince, or any other sovereign power. Every British subject has, by common law, the right of going out of the kingdom without obtaining any license for that purpose; but this right may be restrained, in particular cases, by a writ of *ne exeat regno*, granted by the court of chancery. This writ was, in its origin, a state writ, but is now used for the benefit of the subject.

All judges derive their authority from the king, and administer the laws in his name; but he does not execute in person any office connected with the dispensation of justice. The king is also the head of the Anglican Church, and supreme in all matters of an ecclesiastical nature: he consequently nominates to the high dignities in the national church.

The power of making war or peace is likewise among the prerogatives of the crown, but, like many other powers, is exercised with the advice, and through the means of, his responsible ministers or servants, and is therefore virtually controlled by Parliament. All declarations or treaties by which the relations of the kingdom with foreign states are altered or regulated are made in the name of the king.

Another prerogative of the crown is the coinage of money, and the right of fixing the rates at which it shall pass current within the kingdom. The king may also by proclamation give legal currency to foreign coin.

The laws are administered and punishments awarded in the name and by the authority of the king, who has the power of pardoning offenders, and of commuting for any less punishment the sentences pronounced upon them. This prerogative is usually exercised under the advice of the secretary of state for the home department.

The House of Lords is composed of all the spiritual and temporal peers of England, sixteen temporal peers of Scotland, with four spiritual, and twenty-eight temporal peers of Ireland. The peers of England, both spiritual and temporal, have sat in the great council of the realm, from the time of the Conquest. The Scotch and Irish peers had no voice in that assembly until the acts of union with those two parts of the kingdom respectively were passed. Before the legislative union with Ireland, the peers of that country formed a separate branch of the Irish legislature. The sixteen Scottish peers are elected by the body of Scottish peers from among themselves at the commencement of each new parliament, and continue to represent that body until the dissolution of the parliament. The Irish temporal peers were elected for life when the legislative union took place in 1801. Such vacancies as occur by death are supplied by election from among the remaining Irish peers. The spiritual lords of Ireland who sit in the House of Peers are one archbishop and three bishops, who attend according to a certain rotation.

There are five orders of temporal nobility, who are all created by the king; namely, dukes, marquesses, earls, viscounts, and barons, who rank in the order in which they are here enumerated. The first creation of a duke in England was by Edward III., who created his eldest son Duke of Cornwall in 1337. This order of nobility became extinct in the reign of Elizabeth, but was revived by James I., who created George Villiers Duke of Buckingham. The title of marquess was introduced after that of duke, and was first conferred upon Robert De Vere, Earl of Oxford, who was created Marquess of Dublin in the reign of Richard II.

The title of earl is much more ancient. The word earl originally meant only a man of noble birth; but it became in the eleventh century a title of office syno-

nymous with the Saxon alderman, or governor of a county: and it has since become a mere title of dignity*. The first viscount† was created by Henry VI. The title of baron, which now properly belongs only to the lowest class of nobility, was originally the general designation of all the great possessors of land who, after the Conquest, held lands of the king, under the title of his tenants-in-chief, and by virtue of their tenancy were bound to do certain services, and to assist, when summoned, at the king's councils‡. The tenures of the bishops and of some of the great abbots, who were called mitred abbots, were converted into baronies by William the Conqueror: and since that time such of them as have continued lords of Parliament sit as barons in the House of Peers. Twenty-seven mitred abbots and two priors had seats in that assembly at the time of the dissolution of the monasteries.

The House of Lords possesses a separate judicial as well as a portion of the general legislative authority, and is the court of last resort to correct the errors of inferior tribunals. It likewise tries criminal accusations brought against its own members; and the peers are the judges before whom are tried all cases of impeachment by the House of Commons for high crimes and misdemeanors against the state.

Every peer may constitute in writing some other peer his proxy to vote for him in his absence; but in order to exercise this privilege it is necessary that the peer who gives the proxy shall have taken his seat during the existing Parliament. Proxies cannot be used when the house votes in committee. Upon leave being obtained from the house (and it is never refused), every peer has a right to record upon its journals the reasons which induce him to dissent from any motion that may have been carried. This entry is called a protest.

The peers maintain their exclusive right to originate all bills which affect the rights and privileges of their order, and will not allow any alteration to be made in such bills by the House of Commons.

The speaker, or presiding officer in the House of Lords is usually the lord chancellor. Of late years, since the judicial duties of the chancellor have rendered his constant attendance at all the sittings of the house a matter of some difficulty, the king has appointed a deputy speaker. It is not necessary that either the speaker or the deputy should be a peer; but unless he be so, he cannot give any vote.

The origin of the House of Commons is involved in much obscurity, and different writers have advanced somewhat contradictory opinions in regard to it. The first writs of summons to cities and boroughs to send members to Parliament, as far as proof can be given, were those of Simon de Montfort, in the 49th of Henry III., 1264*; and this is now generally considered the origin of our popular representation.

Every member of the House of Commons must be of the age of twenty-one years. The representative of a county must be possessed of a freehold or copyhold estate of the value of 600*l.* per annum; but this condition is in practice often evaded by some rich person furnishing a poor member with a qualification, as it is termed. To sit for any city or borough, or any other place, with the exception of the universities, a property of half that annual value is sufficient qualification. These qualifications in regard to property are not required from the eldest son and heir-apparent of either a peer or a commoner qualified to be a knight of the shire. In Scotland no qualification is required.

Many persons are disqualified, by reason of their offices, from taking seats in the House of Commons. Among these are (at present, though not formerly,) persons in holy orders, persons concerned in the management of duties or taxes, (excepting the commissioners of the treasury), clerks in public offices, agents for regiments, governors of colonies, the twelve judges, and some others. Aliens, even after they become naturalized, are ineligible. Sheriffs of counties, and all such municipal officers as are appointed to return the members who shall be elected, are not eligible in their respective jurisdictions, but may be chosen to sit for any other district. If any person while he is a member of the House of Commons accepts any office of profit from the crown, unless it be a command in the

* Middle Ages, vol. ii p. 3[illegible].
† [illegible]elf, Vicecomes, is much older: see what is said afterwards about the Sheriff.
‡ See the article Baron, Penny Cyclopædia.

* Hallam's Middle Ages, vol. iii. p. 40.

army or navy, he vacates his seat, but may be re-elected.

The number of members elected to serve in the House of Commons is 658, as follows:—

England..	County Members.	143	471
	Universities.....	4	
	Cities & Boroughs	324	
Wales....	County Members.	15	29
	Cities & Boroughs	14	
Scotland..	County Members.	30	53
	Cities & Boroughs	23	
Ireland...	County Members.	64	105
	University......	2	
	Cities & Boroughs	39	
			658

Previous to the passing of the act of 2d of William IV., commonly called the Reform Bill, the sole qualification of voters for English counties was the possession of a freehold estate of the yearly value of forty shillings and upwards. The elective franchise in cities and boroughs was of various kinds: it was sometimes vested in the householders at large, but more frequently confined to the freemen or to the members of the corporation by which each town was governed, and was consequently often enjoyed by a very small part of the inhabitants. Since the passing of the act just referred to, no person is entitled to vote for a county except he be in possession of freehold or copyhold lands of the yearly value of 10*l.* and upwards, or be the lessee of lands of the same value, originally leased for not less than sixty years, or of lands of the yearly value of 50*l.*, originally leased for not less than twenty years, or except he be the tenant of lands at a yearly rent of not less than 50*l.* The elective franchise in cities and boroughs is now enjoyed by all householders occupying buildings, which separately, or together with land held with them, are of the yearly value of 10*l.* and upwards. In making this change the elective rights previously enjoyed by individuals are secured to them during their lifetime. There are several other regulations connected with the present exercise of the elective franchise, which it is unnecessary to mention here.

When any legally qualified person has been chosen to represent any place in Parliament, he cannot resign his seat; but this is managed by the fiction of accepting some office of nominal emolument under the crown. The personal privileges enjoyed by members of the House of Commons are—freedom from arrest under any civil process; liberty of speech during the debates and proceedings of the house; and permission to send and to receive daily a certain number of letters by the post free of charge. The speaker of the House of Commons, who presides over their deliberations, and acts as the guardian of their forms and privileges, is elected from among the members at the commencement of every new Parliament, and must be presented to the king for approval before he can act in his office, and before the business of the session commences. In point of rank, the speaker is considered the first commoner in the kingdom.

The mode of proceeding usually adopted on the introduction of any measure into either house of Parliament is, for some member to move for leave to bring in a bill, a step which is usually, but by no means invariably, allowed by the house. This bill must then be read a first and a second time: it then passes through a committee of the whole house; the report of that committee is subsequently brought up at one of the ordinary sittings of the house, and the bill is then read a third time, and, upon motion to that effect, is passed, and sent to the other house for its concurrence. In any or all of the seven stages here enumerated the principle and provisions of the bill are open to debate; but it is usual to confine the discussion to one of the earlier stages, generally either on the motion for introducing the measure, or for the second reading of the bill. If these stages are passed, the details are considered, and, if necessary, are amended in committee. The same forms, with the exception of the motion for its introduction, are followed on the reception of the bill in the House of Lords. Should any alterations or amendments be made in any of its provisions, the bill must be returned to the house where it originated for its concurrence in those amendments, after which the measure is ready for receiving the royal assent. This is given sometimes by the king in person, but more frequently by three or more peers, who are commissioned by the king under the great seal.

The assent of the king is necessary for the perfecting of every law, and he can refuse his assent whenever he pleases; but the practice of refusing assent may now be considered as obso-

lete: the last instance was in 1707. The bills which have received his assent become from that time acts of Parliament. They require the concurrence of each branch of the legislature before they can be repealed; this may be done, indirectly, by a subsequent act, of which the whole or part should be inconsistent with the whole or part of any previous act.

The representatives of the Commons, as already observed, will not permit the smallest alteration or amendment to be made by the House of Lords in any bill which comes under the denomination of a money bill; and hence the Commons House, by refusing to grant the usual supplies, could at any time impede the course of administration, and thus exercise a great influence both over the king and the House of Lords. The supplies are granted for a limited period, generally one year, and hence the necessity under which the crown is placed of assembling the Parliament at least once in every year. The representatives of the Commons are elected for seven years, though this period may be shortened by the death of the king, or by other means. The king, by his own authority, can prorogue the Parliament or dissolve it; and his proclamation is necessary, in the latter case, for calling together a new Parliament.

The servants or ministers of the crown, who are intrusted with the civil administration of the kingdom, are usually about twelve or fourteen in number, and form what is called the Cabinet. To be a member of this body it is not necessary to hold any other responsible office: but it is most usual for this to be the case. The first lord of the treasury who is generally considered the prime minister, the lord president of the council, the lord high chancellor of England, the lord privy seal, the chancellor of the exchequer, the three secretaries of state, the first lord of the admiralty, and the president of the board of control, who may be considered as secretary of state for the affairs of India, are always members of the cabinet. The other members of the cabinet are variable as regards the offices which they hold, being selected from among the more responsible and influential members of the government, comprising the offices of postmaster-general, chancellor of the Duchy of Lancaster, president of the board of trade, master of the mint, paymaster-general, and the secretary of state for Ireland. What is, in common language called the administration, is a much larger body than the Cabinet; but the whole administration is under the direction of the Cabinet. The Cabinet is not a body recognised by the Constitution, and is of comparatively recent origin: the old, and still, in theory, the advising body of the Crown, is the Privy Council.

The treasury is the principal administrative office. Its board is composed of the premier, the chancellor of the exchequer, and four puisne lords. The commissioners who are appointed to manage each branch of the revenue are under the direct control of this board. Of the three principal secretaries of state, one has the charge of all matters affecting the internal government of the country, including police and public justice. This minister is considered next in rank to the first lord of the treasury. The functions of the other two principal secretaries of state are sufficiently well indicated by their titles of office, one being appointed to manage the foreign affairs, and the other the colonial affairs of the country. The whole are, however, under the control of the treasury. Another secretary, who is called secretary at war—not always an appropriate title—manages the civil affairs of the army, the military details being confided to another functionary, the commander of the forces. The first lord of the admiralty is assisted in managing the affairs, both civil and military, of the royal navy by five junior lords, the united board being appointed to execute the office of lord high admiral of England. The present king, William IV., held the office of Lord High Admiral for a short time, while he was Duke of Clarence.

For the administration of justice in England there are various superior courts. The court of the lord chancellor is a court of equity, and his judicial functions consist partly in providing remedies for wrongs in regard to which the courts of common law do not furnish any. The vice chancellor and the master of the rolls may be considered in the light of assistants to the lord chancellor, since they determine in their own separate courts causes of the same nature. An appeal lies from the decisions of both these judges to the lord chancellor. The court of exchequer is of a mixed character, and determines causes both in equity and at common law: it is also the proper court for questions affecting the

king's revenue. The presiding judge in the exchequer is the chief baron, who usually sits alone as a judge in equity, but in the plea, or common law department of the court he is assisted by four other barons. The court of king's bench is the highest common law court in England: it is also the highest criminal law court, and exercises supreme power over every court or tribunal which has any criminal jurisdiction. The presiding judge is the lord chief justice of England, who is assisted by four puisne judges. The court of common pleas, the practice in which is confined to the hearing and determining of civil suits, is presided over by a chief justice and four puisne judges. All these courts, during term time, hold their sittings at Westminster Hall. The court of bankruptcy is a new court, established by 1 and 2 of William IV., for the administration and distribution of the estates of bankrupts, with an appeal, in certain cases, to the lord chancellor. There is likewise a court for the relief of insolvent debtors: it consists of a chief and three other commissioners, who have power to order the discharge of a debtor from imprisonment, subject to the distribution of his present and future property; or in case of fraud to defer his discharge for a period not exceeding three years from the time of his imprisonment. The commissioners make circuits throughout England every year. There is no appeal from the jurisdiction of this court. There is also in London the admiralty court, which has jurisdiction in maritime cases, both of a civil and criminal nature.

Many other courts exist in England with only local jurisdiction, such as the palatinate courts of Chester, Durham, the court of the chief justice of the Isle of Ely, the courts of the cinque ports, and others.

In the common law courts all descriptions of causes, both civil and criminal, are tried before a jury composed of twelve men. The origin of the trial by jury does not seem to be capable of being traced with precision *. This privilege was secured to the freemen of England in the great charter of King John, wherein it was declared, that "no freeman shall be taken, or imprisoned, or disseised, or outlawed, or banished, or anyways destroyed; nor will we pass upon him, or commit him to prison, unless by the legal judgment of his peers, or by the law of the land." In all criminal cases the law has provided an additional safeguard to the liberty of the subject by the appointment of what is called the grand jury. This body, which is nominated by the sheriff, is composed of not more than twenty-four men, who are selected from among persons of character and consideration residing within each county. Every charge is brought before the Grand Jury in the first instance, and must be supported by at least that amount of evidence which renders the guilt of the accused sufficiently probable to warrant his being put upon his trial in open court. The petit jury, by whom the cause is ultimately tried, must be composed of twelve men, inhabitants of the county in which the crime was committed. The prisoner has so far a share in the choice of these his judges, that the law allows him to challenge or object to individuals upon various grounds, such as incapacity, legal taint, that is, a previous conviction for some crime, or on a reasonable supposition of partiality; besides which, every person arraigned for high treason may challenge, without assigning any cause, thirty-five jurors, successively; and a person arraigned for murder or felony may challenge, in the same manner, twenty. In the English courts it is necessary for all the twelve members of a jury to be unanimous in their verdict.

Courts of assize are held by the judges at certain intervals in every county of England and Wales, and for this purpose the country is divided into eight circuits, (see the Appendix.)

The judges, who, previous to the reign of George III., held their appointments at the pleasure of the crown, were, by an act passed in the first of that reign, declared to be removable from their offices only upon an address being presented by Parliament to the throne.

The great Ecclesiastical division of England and Wales is into the two provinces of Canterbury and York, each of which divisions is under the ecclesiastical government of an archbishop. Canterbury is first in dignity, and the archbishop of Canterbury is styled the primate of all England: the archbishop of York is a primate of England. The province of Canterbury contains twenty-one, and that of York three bishoprics or dioceses, besides that of the Isle of Man, annexed to it by act of Parliament in the reign

* Hallam's Middle Ages, vol. ii., p. 396, &c.

of Henry VIII., (see Appendix.) These dioceses are again divided into archdeaconries, which are sixty in number, and each archdeaconry into rural deaneries, and these again into parishes. Some few districts are extra-parochial; that is, are included in no parish, but all such districts are within some county.

Next to the king, the archbishop* has supreme power in all ecclesiastical matters within his province. Each archbishop has also his own diocese, within which he performs episcopal functions. He has the inspection of the bishops in his province; but he cannot deprive them of their preferment. A bishop is deprived by process in a regular court, without the intervention of the archbishop, although the judges of that court may be nominated by the archbishop. Appeals are made to the archbishop's court from inferior ecclesiastical jurisdictions. He has the right of presenting to all church livings to which any of his suffragan bishops might have collated, in default of such collation being made within the proper time. On consecrating every bishop who is appointed to a diocese within his province, he receives an assignment by deed of the next presentation to such dignity or benefice, at the disposal of the bishop within the diocese, as the archbishop shall select, and which is therefore called the archbishop's option.

The bishop has ecclesiastical authority over the clergy and people of his diocese, but he can only exercise it through the proper legal tribunals. Every bishop has a court, in which he is assisted by a chancellor, who may be a doctor of the civil law, of one of the English universities, or merely a master of arts, or a doctor in divinity. It is the duty of the bishop to institute to all ecclesiastical livings in his diocese. Bishops are nominally elected to their sees by the dean and chapter of the diocese, but are in reality appointed by the crown. When the vacancy occurs, either by the death or translation of a bishop, it is certified to the king in chancery by the dean and chapter, who pray for leave to proceed to the election of a new bishop. Upon this a license is issued under the great seal of the kingdom, called a *congé d'elire*, or permission to elect; but this license is accompanied by a letter containing the name of the person recommended by the king, who is now elected as a matter of course.

Every archdeacon has a court, but an appeal lies in all cases to the bishop of the diocese. In case the archdeacon has a peculiar and exempt jurisdiction, the appeal is regulated by the patent granting the jurisdiction.

Every parish in England and Wales is committed to the spiritual charge of one clergyman, who is either a rector, vicar, or perpetual curate, having what is called the cure of souls. The date when the division of the country into parishes was made is not known, nor is it probable that it took place either all at once or on any regular plan. It is probable that the parishes were formed gradually, and that parish churches, in many cases, were built and endowed with the tithes that arose within the circuit assigned to the parish.

The Civil division of England and Wales, that is, the division for the administration of justice, is into counties, of those counties into hundreds, and of those hundreds, or other equivalent divisions, into townships. The division into counties is certainly older than the time of Alfred. The antiquity of the minor divisions of hundreds, and that of tythings (formerly in use), does not appear to be well made out. The tything was so called because each was composed of ten freemen, every one of whom was responsible for the good conduct of the others; so that if any one of the ten committed a crime, the nine were bound to produce the offender in justice, or show good reason why they could not do it. Anciently every freeman above twelve years of age was required to be enrolled in some tything*. Each hundred was composed of ten tythings, and was governed by a high constable or bailiff, and at one time a court for the trial of causes was held in the hundred by the sheriff of the county. In some northern counties the divisions which correspond to hundreds are now called wapentakes. *Shire* is a Saxon word, signifying a division; the word county is derived from the Latin *Comitatus*, so called from *Comes*, the Latin title of the count or governor, who in this respect corresponded to the Saxon alderman. The deputy of the count, or earl, was the sheriff, shire-reeve, or

* See article ARCHBISHOP and ARCHDEACON, Penny Cyclopædia.

* Hallam's Middle Ages, vol. ii. p. 407.

officer of the shire (called in Latin *Vice-comes*), upon whom, in process of time, the civil administration of the county has principally devolved. Though it is probable that the word hundred, in its origin, must have meant a division that comprehended either a hundred free parishes, or a hundred of something else, there is no such regularity in the size of these divisions as will warrant the supposition of their having been formed on any uniform plan. It is also observed * that the great divisions of the northern counties had originally a different name, and, we may presume, a different origin, and that in the course of time many of them have improperly acquired the name of hundreds, which name is conjectured to be a term and political division more peculiarly belonging to the south of England. In some counties, as in Kent and Sussex, there are intermediate divisions between the county and the hundreds, which are called rapes and lathes; these usually contain each about three or four hundreds. Yorkshire is divided into three intermediate jurisdictions, called trithings, of which name, it is said, the modern name of Ridings is a corruption†.

England contains forty and Wales twelve counties. Three of the English counties are called counties palatine - Chester, Lancaster, and Durham. They were thus called because some lord had within them a jurisdiction "as fully as the king hath in his palace." All writs and indictments ran in their names; they appointed judges, and had the prerogative of pardon within their jurisdiction. Chester and Lancaster have been united to the crown, and Durham is now the only county which is properly a county palatine.

Certain cities and towns, some of which have territory annexed to them, are in themselves considered as counties, and are governed by their own magistrates, so that no officers of the county in which such cities and towns are situated have any authority in them. Among this class of counties are London, Canterbury, York, Bristol, Kingston-on-Hull, Norwich, and Coventry.

Lord-lieutenants of counties are of comparatively modern origin. They began to be introduced about the reign of Henry VIII. as representatives of the crown, to keep the counties in military order. It is the duty of the lord-lieutenant to call out the militia of the county, to form them into regiments, and to appoint the colonels and other commissioned officers. The lord-lieutenant further appoints several of the principal gentlemen of his county to be his deputy lieutenants; but these officers must be presented to the king for his approval. Another kind of subordinate magistrates are justices of the peace. They are appointed by the king's special commission, under the great seal. Any two or more of them may inquire and determine concerning felonies and misdemeanors within the county, for which purpose courts must be held four times in the year, at about equal intervals, which are thence called courts of general quarter sessions. It is seldom that any but minor offences are brought before these tribunals, those of a graver kind being tried by the judges of assize on their circuit. The chief description of causes heard by the justices at Quarter sessions are, smaller misdemeanors, offences against the game-laws, questions relative to the settlement and provision for the poor, trespasses, cases of vagrancy, and other local matters. At the Petty sessions, however, the majority of game-law cases are determined, and there are very numerous convictions at these sessions, subject, in general to appeal to the Quarter sessions. The records or rolls of the sessions are kept in the custody of one of the justices, who holds the appointment of *custos rotulorum* from the crown, and is considered the head magistrate of the county for civil affairs. He has the nomination of the clerk of the peace. The lord-lieutenant of the county is often the custos rotulorum.

Corporate towns hold their own courts according to the terms of their charter, or according to local usages.

In every county of England there are officers called coroners, the principal part of whose duty consists in holding courts of inquiry concerning the death of any person who may die in prison, or come to any violent or sudden death. These inquiries are always held before juries composed of persons assembled from the neighbourhood where the death has occurred. The office of the coroner is of very ancient date. He is chosen by the freeholders in the county, and usually for life, but may be removed for incapacity or misconduct, or if he accept any

* Hallam's Middle Ages, vol. ii. p. 390.

† In the Stat. 20th Henry III., we find the following enumeration: — "Comitatum, Trithingum, Hundredum, et Wapentachium."

other office, the duties of which are incompatible with that of coroner.

Cities, according to Sir Edward Coke, are incorporated towns, which are, or have been, sees of bishops: but whatever may have been the original distinction between cities and towns, it is denied that this distinction depended on a place being a bishop's see *. No such definite description can be given of boroughs, some of which are corporate and others not: some send burgesses to Parliament, and others do not. Some possess charters from the crown, while others claim their privileges solely by prescription. There are also many towns which are neither cities nor boroughs. Some of these have the privilege of holding markets, and are thence called market towns.

Every parish in England and Wales is intrusted with the management of such matters as relate exclusively to itself. The inhabitants, meeting in what is called the vestry, either collectively or by a certain number chosen from among the body of parishioners, tax the parish to provide funds for the support of the poor, and for other local objects. Certain officers, chosen annually, and called overseers of the poor, attend to the distribution of the funds raised for the relief of the poor. This office is usually performed gratuitously, but in populous parishes, and where the labour is consequently great, it has latterly been found advantageous to appoint salaried overseers, who have a more permanent tenure of the office, and who attend exclusively to its details. They are under the control of the vestry, and answerable through that body to the parishioners for the expenditure of the money placed at their disposal.

Education forms no part of public administration in England and Wales, though it does both in Scotland and Ireland to a limited extent†. The universities of Oxford and Cambridge, and the endowed schools of England and Wales, are the only institutions that can be considered as places of public education, and this only in a confined sense, and not in the large acceptation of the term. No person can take a degree at Oxford or Cambridge without making certain declarations and subscriptions, which are of such a nature as practically to exclude from the universities nearly all who dissent from the Anglican church. The endowed schools are also in some instances, though not in all, practically open only to members of the Church of England; and such emoluments and advantages as belong to those schools, and can only be enjoyed by residence at the colleges of the two universities, are of course attainable only by those who belong to the Established Church. Neither the universities nor the endowed schools are in any way under the direct control of any department of government. The education of those in the higher and middling classes, who do not go to the endowed schools and the universities, is conducted by private persons, who keep schools on their own account. The education of the poor is conducted by societies of various religious denominations, who provide either wholly or in part for the education of the poor members of their own communion. The National School Society, which is under the direction of the clergy of the Established Church, provides education for a larger number than any other society; and from its connexion with the Established Church, and the means which it has at its command, it must be considered as having approached nearer to the forming of a system of public education for the poor in England and Wales than any other body. But as it admits into its schools no pupils who do not conform to the ceremonies and learn the creed of the Anglican Church, and as it is not at all under the control of any department of the government, it is improperly called a National School Society. Its only superior claim to this title over other similar societies arises from the greater number of its schools. The British and Foreign School Society has not near so many schools under its superintendence as the National School Society, but it has the advantage over it in opening its schools to children of all religious denominations, without requiring them to learn the particular religious dogmas of any sect; and it is believed that the education given in these schools is generally superior to that given in the National Schools. Those who dissent from the doctrine or discipline of the Church of England have also schools belonging to their several religious communities and chapels, in which the poor of those communities receive instruction. These bodies have also fixed places of higher education, generally resorted to by those intended for the

* Woodesson's Lectures, vol. i. p. 183. New edit.
† See Journal of Education, Elementary Education in Scotland, No. xvii.; and National Education in Ireland, No. xviii.

ministry. The children of dissenters of the middle and upper classes, not intended for the ministry, generally go to private schools, kept by masters of their own persuasion, or to the schools, either private or endowed, which receive pupils of all religious opinions.

It appears, then, that education in England and Wales is not established by law, in any proper sense of that term: it cannot, therefore, be considered as forming a part of public administration, any more than any other branch of trade or commerce, if we view education as a speculation of a private individual; or any more than the operations of any other association of individuals, if we view education as conducted by societies.

COUNTIES.

ENGLAND and Wales are politically divided into fifty-two counties, of which England contains forty, and Wales twelve:—*

ENGLAND.

Middlesex	Cornwall
Hertfordshire	Monmouthshire
Buckinghamshire	Herefordshire
Bedfordshire	Worcestershire
Huntingdonshire	Warwickshire
Cambridgeshire	Northamptonshire
Norfolk	Leicestershire
Suffolk	Rutlandshire
Essex	Lincolnshire
Kent	Nottinghamshire
Sussex	Derbyshire
Surrey	Staffordshire
Hampshire	Shropshire
Berkshire	Cheshire
Oxfordshire	Lancashire
Gloucestershire	Yorkshire
Wiltshire	Westmoreland
Dorsetshire	Cumberland
Somersetshire	Durham
Devonshire	Northumberland

WALES.

Glamorganshire	Montgomeryshire
Brecknockshire	Merionethshire
Caermarthenshire	Carnarvonshire
Pembrokeshire	Anglesea
Cardiganshire	Denbighshire
Radnorshire	Flintshire

ENGLAND.

MIDDLESEX,

The Metropolitan county of England, may be most conveniently taken as the first in our description. Middlesex is an inland county in the south-east of England, and was formerly part of the Saxon kingdom of Mercia. It is bounded on the north by Hertfordshire; on the south by Surrey and a small part of Kent; on the east by Essex; and on the west by Buckinghamshire. On three of its sides, its limits are determined by natural boundaries. The Thames divides the county on the south from Surrey and Kent, the Lea separates it from Essex, and the Colne from Buckinghamshire. Middlesex lies between 51° 23′ and 51° 43′ N. lat., and 0° 0′ and 0° 31′ W. long.

With the exception of Huntingdonshire and Rutlandshire, it is the smallest county in England: its greatest length from east to west is twenty-one miles, its greatest breadth from north to south is seventeen miles and a half: it comprises an area of 282 square miles. Its figure is irregular, and follows all the windings of the Thames on the south; the northern boundary, which is wholly artificial, is scarcely less irregular, and at its north-eastern angle runs far into Hertfordshire.

The general aspect of the county is that of a gently waving surface, with extensive levels in some places, and considerable inequalities in others. Near the banks of the Thames, the county is flat; thence towards the north the surface becomes more varied. A range of low hills, commencing about three miles north of the Thames at London, runs through Hampstead, Highgate, to Muswell Hill and Winchmore Hill, in a north-east direction, terminating at Enfield Chase. This high ground likewise extends northward from Hampstead and Highgate, and is connected with another and more extensive ridge, which also has one end at Enfield Chase, and passes westwards through Barnet, north of Edgeware, and all through the extreme north of the county. The highest ground in the county, which is at Hampstead, is not more than 400 feet above the level of the Thames. Besides this, the most considerable elevations are Highgate, connected with the high ground of Hampstead, Harrow, Barnet, and Highwood.

The three rivers already named, &c.

* See Appendix for tables of various kinds.

gether with the Brent, are the principal streams of the county. The Thames enters Middlesex near Staines, and flows in a south-east direction to Weybridge, where it takes a course somewhat to the northward of east for about ten miles: it then runs to the north as far as Brentford, where it again takes a winding easterly course and quits the county a little below Blackwall. The Colne enters the county near Harefield, and flowing to the south, through a low wet country, past Uxbridge and Colnbrook, falls into the Thames at Staines. The Lea enters at the north-eastern angle of Middlesex, near Enfield, follows a southerly course through Edmonton and Tottenham parishes to Clapton, passes through Stratford-le-Bow, and joins the Thames near Blackwall. The Lea is navigable by small craft for nearly eight miles from its mouth to Tottenham, whence the navigation has been continued by means of a canal, along the eastern border of the county. The main branch of the Brent, a very inconsiderable stream, rises near Barnet, in Hertfordshire, and flowing by a circuitous course towards the south-west, passes through Twyford and Hanwell and falls into the Thames at Brentford: the high land which runs northward from Highgate and Hampstead, along the west side of Finchley, and so on to Whetstone and Barnet, is the water-shed between the Brent and the Lea. The New River is an artificial stream, made for supplying the metropolis with water: it commences in Hertfordshire, about twenty miles from London. It enters the county at Enfield, and flows by Hornsey and Stoke Newington, to a basin near Islington, called "The New River Head," whence the water is distributed by pipes to various parts of London. The course of this stream winds so much, that its length is nearly double the direct distance between its Head and source: this is owing to the water being brought as near as possible on one level, allowing only the necessary fall; and as no aqueducts have been used in its construction, it necessarily winds very greatly, in order to follow the lands which have a sufficient elevation.

Middlesex is further intersected by the Grand Junction, the Paddington, and the Regent's Canals. All these communicate with each other, and, by their union with other canals, form one line of navigation, connecting the metropolis with all the midland and western counties. The Regent's Canal quits the Thames at Limehouse, whence it passes through Mile-End, Hackney, and Hoxton, to Islington, where it runs through a tunnel, three-quarters of a mile in length, to St. Pancras parish and the Regent's Park. Near the Zoological Gardens in the Regent's Park, there is a short cut running southwards, which terminates in a basin near Cumberland Market, in the parish of St. Pancras. The main canal passes through another short tunnel under Maida Hill, and joins a cut to the Grand Junction Canal at Paddington, nine miles from its commencement. In its course it has twelve locks and thirty-seven bridges. The locks are so constructed as to admit barges eighty feet long and fourteen feet wide. A large basin has been cut at the end of the Islington tunnel, and adjoining the City Road, where numerous wharfs and warehouses have been constructed. At the western extremity, the Regent's Canal joins another basin at Paddington, which gives that place many of the advantages of a port, and has raised it in a few years from the condition of an inconsiderable village, to one of the most thriving, populous, and regularly built suburbs of the metropolis. The Paddington basin is about 1200 feet long and nearly 900 feet wide. The Paddington Canal is thirteen miles and a half long, and on one level. It forms only a branch of the Grand Junction Canal which joins the Brent near Hanwell, and quits the county near Rickmansworth, whence it runs in a tolerably straight course for ninety-five miles to Bramston in Northamptonshire, and there unites with the Oxford Canal. This work, which was undertaken in 1792, has proved highly useful to the public, and profitable to the proprietors.

The soil of Middlesex is, for the most part, of a medium fertility; but the great supplies of manure from the metropolis have given it an artificial richness. Loam and clay prevail in some parts, and particularly on the banks of the rivers, and on some of the hills. On other hills, and in the low parts of the county, gravel and sand are found. Throughout Middlesex, the subsoil at a greater or less depth is generally gravel impregnated with oxide of iron. Where a strong loam or stiff clay occurs, the gravel lies at a considerable depth; but is nearer to the surface where the soil is light. There is some marsh land

on the banks of the rivers Lea and Colne, and in the Isle of Dogs, adjoining the Thames, between Limehouse and Blackwall. The great argillaceous formation which has obtained the name of the London clay, is so called from its forming the general substratum of London and its vicinity. This formation is, however, far more extensive than its name would imply; it constitutes a very large part of the soil of Suffolk; nearly the whole of Essex, quite to the sea: the whole of Middlesex, and portions of Berkshire, Surrey, and Kent: a small patch of it is visible to the south-west of Ramsgate, on Pegwell-bay.*

This bed of clay contains very numerous and interesting organic remains. Among these are the crocodile and turtle, several species of vertebral fish, beautifully preserved, and many species of lobsters and crabs. Mr. Crowe, of Feversham, procured a large collection of fruit, or ligneous seed-vessels, in the island of Sheppey. These included 700 distinct specimens, very few of which agree with any seed-vessels now known: several of them appear to belong to tropical climates, including a species of cocoa-nut and various spices *.

Some very deep beds of clay from 100 to 200 feet in thickness, and adapted for making tiles, are found near the metropolis, all round which bricks are made in great quantities. Upwards of 2000 acres have been dug for this purpose to the depth of from four to ten feet below the surface. In and near the metropolis, this clay is sometimes penetrated in making wells; one has been lately made at Hampstead, by the Hampstead Water Works' Company.

There are very few large farms in this county, a fact which is accounted for by the nature of the cultivation occasioned by the wants of a dense population. The greater part of the land is laid out in meadow or pasture: or, in the immediate vicinity of the metropolis, in garden or nursery ground, which requires a considerable capital for its cultivation. But little grain is raised: what is wanted for the use of the inhabitants is brought by water-carriage from all parts of the kingdom. Garden vegetables and hay, which at present cannot be brought from any great distance, form the chief part of the agricultural products of the county.

The market gardens from which London is supplied, are mostly near the banks of the Thames above London. The labour bestowed upon them is very great, and the average produce of each acre thus cultivated is estimated to reach 100*l.* per annum. The yearly produce of some favoured spots in the immediate vicinity of Westminster, is said to sell for 250*l.* per acre.

For the reason just given, very few cattle are fattened in this county, and of these the greater part are fed with the grains and spent wash of distilleries. A very great number of cows are kept for the supply of milk. These are mostly of the short-horned Holderness breed. They are tended with much care, are housed during the night, and fed with grains procured from the great London breweries, together with turnips and meadow hay. Thus managed, they yield a large supply of milk, averaging, it is said, for each cow, as much as nine quarts daily. The Middlesex cow farmers seldom or ever rear calves, finding it more to their advantage to keep up their stock by buying them at the age when they begin to be productive.

A few sheep are kept in the county for the breeding of house-lambs. The greater part of these animals required for supplying the markets, are fatted and brought from adjoining counties. The same may be said of hogs, except that some are fattened at distilleries and by starch-makers with the refuse of the grain which they use.

Middlesex is divided into Six Hundreds: -- Edmonton, Gore, Elthorne, Spelthorne, Isleworth, and Ossulston. Edmonton Hundred abuts on Essex to the east, and Hertfordshire to the north; Gore is bounded by Hertfordshire on the north; Elthorne adjoins Buckinghamshire on the west; Spelthorne has the same boundary on the west and the Thames on the south; Isleworth Hundred lies to the east of Elthorne and Spelthorne, and between them and the Thames: and Ossulston Hundred is bounded on the south and the east by the Thames and the Lea, and on the north by Edmonton and Gore Hundreds, extending in one small part through the whole breadth of the county from south to north into Hertfordshire. Middlesex contains 195 parishes, and, besides the two cities of London and Westminster, has seven market towns. It has, likewise, many considerable villages, chiefly to the westward of London. Of the fourteen members

* Conybeare and Phillips's Geology of England.

which it sends to Parliament, two are returned by the county, four by the city of London, and two, respectively, by the city of Westminster, and by the newly-constituted boroughs of Marylebone, Finsbury, and the Tower Hamlets. These, with the two representatives of Southwark, and two chosen by the newly-enfranchised borough of Lambeth, compose what are denominated the eighteen Metropolitan members of the House of Commons.

London, the metropolis of the United Kingdom, is situated in the south-eastern quarter of Ossulston Hundred. We shall describe this capital as it is usually understood, comprising, not only the ancient city, both within and without the walls, with the city and liberties of Westminster, but also the other parts on both sides of the river which are now included in the general name of London. This aggregate forms the largest, most wealthy, and probably also the most populous city in the world.

The metropolis is connected by continuous lines of buildings with suburbs situated both in Essex and Kent: but as these do not form so essential a part of the capital, they will be included in the description of the respective counties.

The extreme length of London from east to west, reckoning from Poplar to Knightsbridge, is about seven miles and a half; and its extreme breadth from Islington on the north, to Newington Butts on the south, is very nearly four miles. In some parts, its breadth does not exceed two miles. Its total area has been calculated at thirty square statute miles, or 19,200 statute acres; and, consequently, it occupies a space equal to more than one-tenth part of the county of Middlesex.

The origin of London and of its name are unknown: but it certainly existed before the invasion of this country by the Romans. The Roman name Londinium was probably derived from its previous appellation, with the addition of a Latin termination. The city is mentioned under this name by Tacitus (Annal. xiv. 33.), who tells us, that about A. D. 61, Londinium was the chief residence of merchants, and the great mart of commerce. But the London of that day was very different in point of extent from the vast mass of dwellings now to be described. The original wall of the city, the building of which is usually ascribed to the Romans in the fourth century, is described as commencing at a fort which in part occupied the site of the present Tower of London, whence it proceeded northward through what is now the Minories to Aldgate, and then diverging somewhat to the westward, was carried through Bishopgate church-yard to Cripplegate. Taking then a southerly direction, it reached Aldersgate, proceeded to the north of Christ's Hospital, and thence turning directly south to Ludgate, it again took a westerly course to New Bridge Street, and followed the Fleet River, until it reached the Thames, where another fort marked its termination. Very few vestiges of this wall at present exist; but not many years since, in the street known from that circumstance as London Wall, a portion of it was visible. Four principal gates in the wall opened to the four great military roads constructed by the Romans.

The boundaries thus described were gradually enlarged; but the greatest increase has taken place within the last two centuries. A map of London and its environs, published in the reign of Elizabeth, which is still extant, shows that a great part of what is now the most crowded portion of the city, was then uncovered or garden ground. Between the spot where the Bank of England now stands and the Tower, only a few houses were thinly scattered. Goodman's Fields, answering to their name, were pasture grounds; and Houndsditch consisted of a single row of houses on its western side, opening behind into fields between them and the more central part of the city. Whitechapel contained very few houses; all that part of Spitalfields beyond the church, to the north and east, was open country; and on the west side of Bishopgate Street towards Finsbury, there were very few buildings. Clerkenwell appears to have been principally occupied by a monastery. Holborn, from the end of Farringdon Street to Red Lion Street, was occupied by houses; but beyond this there was an open space, between London and the village of St. Giles-in-the-Fields. Northward and westward of this village, the ground, was unoccupied by buildings. Between this spot and the Thames, the Strand, then a road connecting London with the village of Charing, was principally occupied by mansions of the nobility, which had large gardens reaching to the river. The roads were not at that time such as allowed the use of any handsome equipages; and as the

movements of the royal family were usually made by water, between Whitehall, and either Richmond or Greenwich, the nobles studied their convenience and their love of splendour by using magnificent barges for passing from one place to another. The streets which now occupy the sites of these mansions, bear, for the most part, the titles of their former inhabitants. The parish of St. Martin was then really *in the fields*, only a very few houses appearing between St. Martin's Lane and Covent Garden, then known as *the Convent Garden*.

The citizens of that day crowded their dwellings together in an inconvenient and unhealthy manner. In fact, the great advantages of space and free ventilation have not been duly appreciated in London, until, by the increasing value of land, it has become more difficult to secure them. It was, without doubt, chiefly owing to the want of sufficient ventilation, the want of a good drainage, and to the crowding together of a numerous population, that the ravages of the plague were in these early times so exceedingly destructive. At its first recorded visitation in 1348, this disease carried off more than 50,000 of the inhabitants of London. Between this time and the great plague of 1666, London experienced five visitations from the plague, at each of which, it is said, nearly one in every five of the inhabitants died of it. It is stated in the Bills of Mortality, that during the plague of 1665, 97,296 persons were carried off, of whom 68,596 died of the plague. Immediately after the abatement of this disorder, in September, 1666, occurred the great fire of London, which is said to have destroyed 13,000 houses, with most of the churches and the halls of the corporate companies. The opportunity which was thus afforded for widening the streets and removing obstructions to the free circulation of air, was not neglected; and from this time London has continued free from all appearance of the plague. Notwithstanding these improvements, so much of the intermediate spaces which had before been vacant, was occupied by buildings, that in four years after the fire London is said to have contained 4000 houses more than were standing before that disaster. Soon after this time, the government became alarmed at the great increase of the city: and in 1674, an order in council was issued, threatening with punishment all persons who should build houses upon new foundations.

This prohibition was, as we might suppose, ineffectual. In 1685, London received a considerable accession of inhabitants, owing to the revocation of the Edict of Nantes; and to accommodate the refugees, great additions were made to the buildings in Spitalfields and St. Giles's parish. Towards the end of the seventeenth, and in the beginning of the eighteenth century, several of the squares and handsome streets in the western part of the metropolis were built, and several new parishes were formed; but the most rapid increase has occurred between the middle of the last century and the present day. The buildings and improvements that have been completed within this time, and which are now in progress, are so extensive and numerous, that it is impossible to describe them, except in a work specially devoted to the subject. For the same reason, it will not be possible to offer any connected sketch of the capital as it exists at present; and we must content ourselves with giving such a general description as may convey some idea of the extent, the wealth, and the commercial activity of this metropolis.

It has been calculated, that London contains between 8000 and 10,000 streets, squares, lanes, courts, and alleys. The total number of houses, according to the census of 1831, was as follows:—

Finsbury	29,605
City of London	17,315
Marylebone	27,888
Tower Hamlets	66,777
Westminster	21,893
Lambeth	29,079
Southwark	22,482
Total	215,039

besides numerous factories, warehouses, and other buildings.

The principal streets follow the course of the Thames from east to west. One long line enters from Essex by Mile-End and Whitechapel, and runs through Leadenhall Street, Cornhill, and Cheapside, to St. Paul's Cathedral, where it divides into two arms, one of which pursues the line of the river through Fleet Street and the Strand, as far as Charing Cross, and thence through Pall Mall to St. James's Palace. The other arm continues in nearly the same direction, but more to the north, through

Newgate Street, Snowhill, Holborn, and Oxford Street, to Tyburn. Several considerable streets cross these main lines from north to south. The chief of these enters at Shoreditch, from Kingsland and the great North road, and runs in a straight line through Bishopgate Street and Gracechurch Street, over London Bridge and through the High Street of the borough of Southwark, to Newington Butts, on the road to Brighton. Another principal street runs northward from the Post Office in St. Martin's-le-Grand, near St. Paul's Cathedral, through Aldersgate Street and Goswell Street to Islington. A third great avenue runs from Holborn through Gray's Inn Lane and Road to King's Cross, where it joins the New Road, which runs to the north of, and parallel with, Oxford Street to Paddington. This road forms a continuation of the City Road, which, running northward and westward from Finsbury Square, crosses the basin of the Regent's Canal already mentioned, joins the Goswell Street Road at Islington, and proceeds through Pentonville to King's Cross. Another important line runs from the point of junction of Oxford Street with Holborn, northward through Tottenham Court Road, to Camden Town, on the road to Highgate and Hampstead. Regent Street, which contains a great number of splendid shops, is altogether of modern construction. It runs northward from Waterloo Place, opposite to Carlton Gardens, the spot where Carlton Palace lately stood, and, crossing Piccadilly and Oxford Street, joins Portland Place and the Regent's Park. The houses in this street, which is a mile in length, and of a considerable and uniform width, are of various architectural elevations, with considerable variety in the style of their embellishments.

Although the prodigious extent of the capital prevents our attempting any detailed description, it is necessary to take some notice of a few of the more prominent buildings and institutions, to which historical recollections are attached, or which connect themselves more intimately with the commercial character of the inhabitants.

The Cathedral church of St. Paul is the most striking object in London. The spot upon which it stands has been used for religious purposes from very ancient times. On digging the foundation for the present building, many Roman funeral vases also, and other articles used in burial, were found at a considerable depth. Above these, rows of skeletons were found, which were evidently, judging from their burial appurtenances, those of ancient Britons; and still nearer to the surface were many stone coffins, containing the relics of our Saxon ancestors, as well as many graves lined with chalk. A Christian church was built on the spot by Ethelbert, King of Kent, in the year 610, and dedicated to St. Paul: this building was accidentally destroyed by fire. The same disaster befel other churches which were successively built on the same site. The last of these misfortunes occurred at the great fire of London in September, 1666, at which time the church was undergoing a very extensive repair. The foundation-stone of the present cathedral was laid on the 21st June, 1675, by Sir Christopher Wren, and the building was completed in 1710, during the whole of which time the work was superintended by that celebrated architect. The entire cost of the building was 736,000*l*. The cathedral, which is built of Portland stone, is in the form of a cross, and is divided by two rows of pillars into a nave and side aisles. The choir is separated from the body of the church by an organ-gallery, supported by eight Corinthian pillars of black and white marble. There are three porticoes, one at the principal or western entrance, and the others in the north and south sides at the extremities of the cross aisles. The western front is ornamented with turrets at the two corners; and the body of the church is surmounted by a dome, from the top of which rises a lantern, adorned with Corinthian columns and surrounded by a balcony at its base. This part of the building is crowned by a ball with a cross rising from its top. The principal entrance is approached by steps of black marble, from which rise twelve lofty Corinthian columns, with an entablature, surmounted by eight composite columns supporting a pediment. This front has a very noble appearance: indeed, the impression made by the exterior of St. Paul's Cathedral from the few points where a view of it can be had, is that of grandeur and beauty combined. It is greatly to be regretted, that, owing to the manner in which the surrounding buildings are crowded upon it, a full

view of the church cannot be obtained from any quarter. It is, perhaps, seen to the greatest advantage from Blackfriars Bridge, though it is only the upper part that is visible from that spot.

The interior of the cathedral is sparingly decorated. The inside of the dome, which was painted by Sir James Thornhill, represents some of the most remarkable events in the life of St. Paul. Several monuments have been erected of late years, under the dome, in honour of various public characters, chiefly those who have distinguished themselves in the naval and military service of the country; to whom Parliament has decreed the honour of a monument. Many of these monuments are in very bad taste. The length of the church, including the portico, is 500 feet; its width 250 feet; and the summit of the dome is 340 feet high; the exterior diameter of the dome is 145 feet, and the whole circumference of the building is 2292 feet.

The collegiate church of St. Peter, better known as Westminster Abbey, stands on ground which was formerly insulated by a branch of the Thames, and then called Thorney Island. This building, like St. Paul's Cathedral, is the successor of several structures which occupied the same spot. The earliest of these structures is said to have been built by Sebert, King of Essex, very early in the seventh century. This edifice having gone to ruin, another, on a larger scale, was erected in the time of Edward the Confessor, who devoted to the work, as we are told, "a tenth part of his entire substance, as well in gold, silver, and cattle, as in all his other possessions." The structure was completed in December, 1065; and on the 12th of January following it became the burial-place of the Confessor. Since that time Westminster Abbey has received the remains of many kings of England; and it has also been used for their coronation: every prince who has reigned in England, from William I., with the sole exception of Edward V., having been crowned here. The Abbey, needing great repairs in the reign of Henry III., was taken down, and its rebuilding commenced; but the work proceeded so slowly, and at such long intervals of time, that it was still incomplete at the accession of Henry VII. Under this prince, the building was finished, and the chapel added on the east side, which is called by his name, and is considered one of the finest specimens of the florid Gothic style. The church was subsequently thoroughly repaired by Sir Christopher Wren, who built the two towers at the western entrance. Early in the present century, the chapel of Henry VII., which being built of a very soft stone, was much worn by the action of the air, was admirably restored; the abbey also is now undergoing a thorough restoration. The building, strictly speaking, is in the form of a cross; but it has not that shape externally, owing to twelve chapels by which its eastern end has been surrounded. The interior is an exceedingly fine specimen of architecture. The arches which separate the nave from the aisles are supported by forty-eight pillars, which are so disposed, that on entering the western door of the Abbey, the whole body of the building is at once visible. The choir is too much crowded with monuments, some of which are exceedingly fine, while others are in bad taste; their presence altogether diminishes the effect which the building is otherwise calculated to produce. Poet's Corner, so called from the assemblage of monuments in honour of many celebrated poets and men of letters, is an object of unfailing interest to every visiter. Among these monuments is one erected, by public contribution, to the memory of Shakspeare; it was designed by Kent and executed by Scheemakers. The principal dimensions of the Abbey are as follow:—

	Feet.
Length from west to east, exclusive of Henry VII.'s Chapel	416
Breadth of the transepts	203
Length of the nave	166
Length of the choir	156

Westminster Hall, which stands in the immediate neighbourhood of the Abbey, and between it and the river, was originally built by William II. in 1097. The Hall is 275 feet long, seventy-four feet broad, and ninety feet high; it is one of the largest rooms in Europe unsupported by pillars. The roof is a fine specimen of carpentry, curiously constructed of chestnut wood. The Hall itself is but seldom used. The last occasion on which it was employed, was at the coronation banquet of George IV. This place has also been occasionally used during trials on impeachment. Here was conducted the trial of Warren Hastings and more

recently that of Lord Melville. In former times, the sittings of Parliament were often held in this Hall; and somewhat nearer to our own days, it was used as a sort of bazaar, principally by booksellers; many of the principal publishers, as appears from the title-pages of their books, had stalls within the Hall. Since the days of Henry III. the supreme law courts of the kingdom have held their sittings here. These courts were formerly held under the roof of the building, and a century ago were not covered in, nor separated from the rest of its area. Within the last few years, new courts have been erected along the west side of the Hall, from the designs of Sir John Soane. These courts are neither handsome nor very convenient.

Adjoining Westminster Hall were the two Houses of Parliament, which had no external beauty to recommend them. The interior of the House of Lords was ornamented with tapestry hangings, representing the victory obtained over the Spanish Armada. The form of the room in which the peers assembled was an oblong. The throne was a handsome piece of furniture, made at the accession of George IV.

The building in which the Commons assembled was formerly a chapel, dedicated to St. Stephen. It was originally built by King Stephen, and in 1347 was rebuilt by Edward III. It was afterwards surrendered to Edward VI., by whom it was applied to its present use. The inside was fitted up very plainly, and the room was too small for the comfortable accommodation of all the members. Both these houses were accidentally burnt down in the latter end of the year 1834. The walls of the House of Lords have since been fitted up for the temporary accommodation of the members of the House of Commons; and the Painted Chamber, another apartment adjoining Westminster Hall, is appropriated to the use of the Peers.

Between Westminster Hall and Charing Cross, are the greater part of the offices occupied by the higher departments of the Government. Downing Street contains the offices of the Secretaries of State for Foreign Affairs and for the Colonies, as well as the official residences of the First Lord of the Treasury and the Chancellor of the Exchequer. In Whitehall are the Council Office and Board of Trade, the Treasury Chambers, the office of the Home Secretary, that of the Secretary at War, and of the Commander-in-Chief, known as "the Horse Guards," the Army Pay Office, and the Admiralty. The back parts of these buildings open upon St. James's Park. On the opposite, or east side of the street, is the Banqueting House, which occupies the spot where the Archbishops of York formerly had their town residence, whence it received the name of York Place. The building was purchased from Cardinal Wolsey in 1530, by Henry VIII., who made it the residence of the court. In 1619, the now existing building was erected in the reign of James I., and was intended as a portion of a magnificent palace, designed by Inigo Jones. The principal part of this building is occupied by one room forty feet high, the ceiling of which was painted by Rubens. This room was converted in the time of George I. into a military chapel, to which purpose it is still applied. On a scaffold, in front of this building, Charles I. was beheaded.

At the west side of St. James's Park stands Buckingham Palace, which occupies the site of a house erected in 1703, by Sheffield, Duke of Buckingham. In 1761, this house became the town residence of Queen Charlotte, and here his present Majesty was born. A commencement was made in 1825 towards rebuilding the palace on a very extensive and expensive scale; the progress of the work was for some time stopped after the death of George IV. But it has since been resumed, and the edifice is now (1835) nearly completed. St. James's Palace, at present used as the town residence of the King, is situated at the west end of Pall Mall. Its front is opposite to St. James's Street, and it is open on the other side to St. James's Park. This palace was built by Henry VIII. on the site of St. James's Hospital. The building has no exterior beauty; but the state apartments are handsome. The suite of rooms which terminate in the presence-chamber, are of fine proportions and magnificently furnished. The presence-chamber contains a very splendid throne, and looking-glasses of large dimensions.

Many public offices are in Somerset House, a handsome building on the south side of the Strand, occupying the space between that street and the Thames. A palace was erected on this site in 1549, by the Protector Somerset; which after his execution, became a royal

residence. It was occasionally occupied by Queen Elizabeth, by Anne, and Catherine, the wife of Charles II. The original building was taken down in 1775 and replaced by the present edifice, after designs by Sir William Chambers.

Somerset House occupies a frontage of 800 feet towards the Strand, but is partly hid by houses; and has a depth of 500 feet to the bank of the river. The building is disposed in the form of three quadrangles, with a large court in the centre.

In addition to the Navy and Victualling offices, which have recently been incorporated with the Admiralty, the office of the Treasurer of the Navy, the Stamp Office, the Tax Office, and some other departments of minor importance, are established here. Besides these, the Royal Society, the Society of Antiquarians, and the Geological and Astronomical Societies hold their meetings in this building. The Royal Academy also has apartments, in which annual exhibitions are made of the works of British painters and sculptors.

The building remained in an unfinished state on its eastern wing till 1829, when the unoccupied ground was given by Government to the trustees of King's College, who have erected lecture rooms and apartments, and have finished the eastern portion of the front that faces the river.

The principal public buildings to the east of Somerset House are—The General Post Office, the Guildhall, the Mansion House, the Bank of England, the Royal Exchange, the Excise Office, the Custom House, the East India House, the Trinity House, the Mint and the Tower of London, and the churches built by Sir C. Wren.

The General Post Office was removed in September, 1829, to the building now appropriated to it in St. Martin's-le-Grand, near St. Paul's. This new building has a frontage of 400 feet, with a depth of eighty feet. The centre is occupied by a vestibule or hall, eighty feet long, sixty feet wide, and fifty feet high, with a line of six columns on each side. On the sides of this hall, are the receiving offices for letters to be dispatched by the inland, the foreign, and the two-penny post branches of the establishment. The columns which support the pediment in the centre are Ionic: the building is one of the principal ornaments of the city. The whole arrangements for conducting the enormous business of the establishment have been admirably planned by the architect. At the back of the Post Office, the Goldsmiths' Company have just finished a splendid hall.

The Guildhall is an irregular building at the north end of King Street, Cheapside. It was first built in 1641, but was so injured by the fire, as to make it necessary to rebuild it, which was done in 1699, with the exception of the front in King Street; this was erected in 1789. The building is occupied by the principal public offices of the Corporation of London. The Hall, which is used for all meetings of the freemen and liverymen, as well as for the city elections and feasts, is 153 feet long, forty-eight broad, and fifty-three high. Several handsome monuments in honour of public men have been erected in this hall at the expense of the corporation. Among these are monuments to the memory of the first Earl of Chatham, and his son, William Pitt, and to Lord Nelson. The chamber in which the meetings of the Common Council are held, contains a collection of paintings, consisting principally of portraits which were presented to the city by Alderman Boydell.

The Mansion House, or residence of the chief magistrate of the city, is situated at the west end of Cornhill. The building was commenced in 1739, and completed in 1753. The principal front is ornamented with a wide and lofty portico, composed of six fluted Corinthian columns. The principal room is called the Egyptian Hall; it is of very large size, and is sometimes used for public meetings of the merchants and bankers of the metropolis. It is also used for the Lord Mayor's great dinners.

The Bank of England is an extensive building, nearly opposite the Mansion House, covering three acres of land. It was built by various architects at different periods, as the growing extent of business carried on by the corporation required additions to be made. The most modern parts of the building have been erected since 1788, by Sir John Soane; and the older parts have been since remodelled by the same architect, so that the whole building is more free from incongruities of style, than would otherwise have been the case. The area in which the buildings are included, is of an irregular form. The offices are arranged and fitted up with every at-

tention to convenience, and to the regular transaction of business. The internal ornaments of some of the apartments are of a classical character and very handsome.

The Royal Exchange was built by Sir Thomas Gresham at his own expense in 1567; but having shared the common fate in the great fire, which occurred a century after, the present edifice was raised of Portland stone at the cost of 80,000*l.* It has two fronts, both of which are furnished with piazzas. The principal or south front, is in Cornhill, and the north front in Threadneedle Street. The internal area has also piazzas surrounding an open square, in the centre of which is a statue of Charles II. The rooms over the piazzas are occupied as offices by private merchants and public companies. Lloyd's Subscription Rooms, in which nearly all the marine insurance business of London is conducted, are over the piazzas.

The Excise Office is in Old Broad Street, a short distance north-east from the Royal Exchange. It was built in 1763, on the spot where the college and alms-houses, founded by Sir Thomas Gresham, had previously stood. It is a large building, forming three sides of a square. The front is of stone, and the other parts of brick.

The Custom House stands by the river-side, at a short distance east of London Bridge. The great increase of business in the port of London, required a Custom House with greater accommodation than could be afforded by the building that existed in 1813; and the foundations of the new structure were already laid when the old Custom House was completely burnt down in February, 1814. The new building was opened for business in very little more than three years from that time. The apartment in which the principal business is transacted is called the long room. In 1825, this room, owing to some insufficiency in the foundations, fell in, and the whole centre part of the building was on that occasion rebuilt. The Custom House presents a front of 480 feet to the river, and is 100 feet deep. The long-room is 186 feet long, sixty broad, and sixty high.

The East India House, in Leadenhall Street, was built in 1726; but has been altered and enlarged to such an extent within the last thirty years, as to leave no trace of the original building. It has a stone front, with a handsome portico, supported by six fluted Ionic columns; the frieze and pediment are ornamented with emblematic figures and devices. The interior comprises numerous handsome and convenient offices and apartments, together with a valuable museum and library, containing many curious objects of nature and art, and works, both printed and manuscript, connected with Eastern antiquities and literature. In this building, the Directors of the East India Company hold their Courts; most of the offices connected with the trade to, and government of India, are likewise under this roof.

The Corporation of the Trinity House has its offices on Tower Hill. This body appoints pilots, and makes regulations for the government of that branch of our maritime affairs, examines the sailing-masters appointed to ships in his Majesty's navy, and takes the management of all light-houses, buoys, and beacons on the coast. The building in which its business is carried on is a handsome stone structure, which was erected between 1793 and 1795. The exterior is ornamented with Ionic pillars: it contains a good collection of paintings and drawings, chiefly connected with naval objects.

The Mint is situated at the north-eastern corner of Tower Hill. The principal building is a stone structure, and consists of a centre and wings. The various workshops and offices cover a space of 71,200 square feet, and are provided with machinery of the most complete description.

The Tower of London, which stands on the north bank of the river, and about three furlongs east of London Bridge, is a very ancient edifice. It is commonly believed to have been built at the commencement of the reign of William I., but some antiquarians are of opinion, that a fort was erected on this spot during the time of the Romans. The walls enclose a space of rather more than twelve acres, and the surrounding ditch measures on the outside 3156 feet. The interior is crowded with buildings placed without much regard to order. The most remarkable of these is the armoury, which is a room 345 feet long, containing 150,000 stand of arms, besides a vast number of swords and other weapons

arranged in chronological order. The whole are disposed tastefully, and in such a manner, that each piece can be separately inspected, by which means they are all kept in perfect order and ready for use at a moment's notice.

The Monument, erected at the foot of Fish Street Hill, was immediately contiguous to Old London Bridge. New London Bridge is a little higher up the river than the site of the old bridge; and a new street is now opened, by which the Monument is seen in a better point of view than it was before. The Monument was commenced in 1671, by order of Parliament, to commemorate the great fire of London, and finished in six years. It is a fluted column, constructed of small pieces of stone. The pedestal is twenty-eight feet square at the base, and forty feet high. The diameter of the shaft is fifteen feet, and its entire height from the pavement 202 feet. An iron balcony over the capital surrounds a meta measuring thirty-two feet in height, and the whole is surmounted by a blazing urn of gilded brass. On the north side of the pedestal is an inscription in Latin, describing the ruinous extent of the fire of 1666; and on the south side another inscription, in the same language, notices the means taken for the restoration of the city. The west side, which fronts the street, contains numerous figures carved in alto and basso-relievo, descriptive of the scene of ruin and consternation which the column commemorates.

Six bridges connect the northern and southern divisions of the metropolis:—London Bridge, Southwark or Queen Street Bridge, Blackfriars Bridge, Waterloo or the Strand Bridge, Westminster Bridge, and Vauxhall Bridge.

The first of these bridges terminates the sea-navigation of the Thames, and is the newest of all the metropolitan bridges; it was opened to the public on the 1st August, 1831. It was built in consequence of a long prevailing opinion, that the old bridge, which stood 180 feet lower down the river, had become insecure. Whether this was the case or not, considerable inconvenience was occasioned by the smallness of the arches in the old bridge, by which the waters were dammed up, and rushed through with great velocity, occasioning a fall of from four to five feet at particular times of the tide. The old bridge which itself succeeded to a wooden one, was built of stone; it was commenced in 1176 and finished in 1209, during which time the course of the river was diverted from its channel, a trench being dug for that purpose, which extended from the east part of Rotherhithe to Battersea. Until the year 1756, the old bridge had houses on it, which made the carriage-way inconveniently narrow.

The new bridge is a noble structure, consisting of five semi-elliptical arches; the span of the centre arch is 152 feet; the two next to the centre on each side are 140 feet; and the two abutment arches each 130 feet span. The centre arch rises twenty-nine feet and a half above high-water mark: the height of the adjoining arches is two feet less, and that of the abutment arches twenty-four feet and a half. The chief characteristic of the bridge is its extreme simplicity. The roadway of the bridge is nearly level, the rise and fall being no more than one foot in 132. The entire length from the extremities of the abutments is 928 feet, and within the abutments is 782 feet. The roadway is fifty-three feet wide between the parapets, which are four feet high. The footways each occupy nine feet of the width, so that the clear carriage-way is thirty-five feet wide. The whole of the bridge, with the exception of some brick arches, over which the approaches are carried, is built of the finest granite, brought from Aberdeen, Cornwall, and Devonshire. The four blocks of this stone which terminate the parapets are believed to be the largest ever brought to London. The first pile was driven for the construction of the bridge on the 15th March, 1824, and the time occupied in its erection was a little short of seven years and a half.

The sum expended in this undertaking, including the approaches, was nearly two millions of money: the whole of which, with the exception of 200,000*l.* contributed by the Government, was defrayed by the Corporation of London; and as a compensation, this body was allowed to levy a duty of 10*d.* per chaldron, for twenty-six years to come, upon all coals entering the port of London. The actual cost of the materials and labour employed in building the bridge was not much above 500,000*l.*; the remainder was paid as compensation to individuals whose houses were removed in order to make suitable approaches. No tolls are paid for the passage of persons or goods across this bridge.

Southwark Bridge, the next to the west of London Bridge, consists of three cast-iron arches, resting on stone piers and abutments. The span of the centre arch is 240 feet, and that of each of the side arches 210 feet. The foundation of the piers is twelve feet below the bed of the river, and rests upon a solid platform of timber placed on the heads of numerous piles driven twenty-four feet into the earth. Some of the pieces of cast-iron used in the construction of this bridge, weigh ten tons; the total weight of iron used exceeded 5300 tons. Southwark Bridge was projected by Mr. John Wyatt, and erected under the direction of Mr. Rennie. It was begun in September, 1814, and completed in four years and a half, at an expense of 800,000*l*., including the cost of the approaches. The iron work was all prepared at Rotherham, in Yorkshire.

Blackfriars Bridge, a light and elegant structure of Portland stone, was commenced in 1760, and completed in eight years, at the small cost of 153,000*l*. The bridge consists of nine elliptical arches; the centre arch has 100 feet span. The stone with which it is built is too soft for the purpose, and exhibits marks of decay.* It was designed by Mr. R. Mylne, and an inscription placed over the first stone records, that the citizens of London had unanimously resolved that the bridge should bear the name of William Pitt, the first Earl of Chatham, a resolution by which the public have not considered themselves bound.

The Strand, or Waterloo, Bridge, is one of the noblest bridges in the world: it crosses the Thames close to Somerset House on the west. It was commenced in 1811, and opened for use on the 18th June, 1817, the anniversary of the Battle of Waterloo. It contains nine elliptical arches of equal dimensions, each being of 127 feet span, so that the roadway is perfectly level. The material is altogether Cornish and Aberdeen granite. This bridge was likewise completed under the direction of Mr. Rennie: it cost rather more than a million of money, all of which was raised by private subscription.

Westminster Bridge crosses the river near Westminster Hall. It was begun in 1738, and completed in about twelve years: its cost, not quite 400,000*l*., was defrayed by Parliament. The bridge consists of thirteen large and two small semicircular arches; the middle arch is seventy-six feet wide, the other twelve large arches decrease four feet each in regular progression; so that the two nearest to the shores are each of fifty-two feet span. The width of each of the two small arches is only twenty-five feet. The method of constructing piers in caissons, said to be the invention of Labelye, the architect employed for building this bridge, was first used by him on a large scale on that occasion. Westminster Bridge has required frequent and extensive repairs, which some attribute to the mode in which the piers were built. The more expensive, but more certain plan of laying the foundation of piers by means of coffer-dams, has been adopted on all subsequent occasions in London.

The remaining metropolitan bridge crosses from Millbank to the celebrated gardens at Vauxhall. This structure, which is of iron, was completed under the direction, first of Mr. Rennie, and afterwards of Mr. Walker. It consists of nine cast-iron arches, each seventy-eight feet in span, and twenty-nine feet high. This bridge was built by a private company, and cost about 280,000*l*.

A project was set on foot in 1802 for opening an archway under the Thames between Rotherhithe and Limehouse. This work was commenced and persevered in for some time, when the water forced its way into the excavation and the attempt was abandoned.

Notwithstanding this accident, many persons believed that the scheme was practicable; and, in 1823, a plan was proposed by Mr. Brunel for executing a similar work, and a joint-stock company was formed for the purpose of raising the funds necessary for the undertaking. The plan proposed was to sink a shaft near the margin of the river, and then to carry forward the work of excavating under the bed of the river by employing a frame-work twenty-two feet high with a series of cavities consisting of three rows, each containing twelve working places for the miners; the shield as it was called, was to be pushed forward as the work of excavation advanced, and the brick-work of a perfect arch was to be immediately completed behind. Each cell in the frame-work was to be covered with boards, so as to insulate the space from the rest of the work; and as the whole was to be made good with solid masonry at the very moment of the removal of the earth, it was con-

* This bridge is now (1835) undergoing a complete repair.

sidered by competent persons, that no fear of impediment need be entertained. Pursuing this plan, the excavation had been completed for 550 feet under the bed of the river, when the water burst through and filled the tunnel. This disaster was speedily remedied by filling from above the cavity through which the water had poured with clay in bags, above 3000 tons of this material being used for the purpose. The water was then withdrawn from the arches and the work recommenced. Further progress had been satisfactorily made for the space of fifty feet, when loose ground occurred, and the water, a second time, burst into the tunnel. This breach has been repaired in the same manner, and the work, which continues perfectly sound, has been freed from water; but the expenses incurred have exhausted all the funds, and the works have been for some time suspended. It is understood that they are now about to be resumed, assistance being afforded by Government for that purpose.

The port of London, legally comprises the distance from London Bridge to Bugsby's Hole, between Blackwall and Woolwich, and is regulated by the corporation of the city. The Jurisdiction of the City over the Thames extends from Staines to Yantlet Creek in the Isle of Sheppey; it takes in also the Medway from Colemouth Creek to Cockham Wood, and extends up the Lea as far as Temple Mills. Only a small proportion of this space is, however, used as the harbour of the metropolis, which may be described as occupying the course of the river for four miles below London Bridge, through nearly the whole of which the river is crowded with trading vessels moored close together, leaving only space for a passage up and down in the middle. The most crowded part is that nearest to the city, extending eastward as far as Limehouse: vessels of 800 tons burthen come nearly up to London Bridge.

Several artificial docks have been constructed, in which nearly all the ships employed in the Foreign and Colonial trade of the port discharge and take in their loading. These docks are—the West India Docks, situated at Limehouse; the East India Docks at Poplar; the Commercial Docks at Rotherhithe; the London Docks in East Smithfield; and the St. Katharine Docks, nearly adjoining the east side of the Tower of London. These are joint-stock undertakings, and have been completed since the beginning of the present century.

The West India Dock Company was established by an Act of Parliament, which compelled all vessels bringing produce from our West India colonies to unload their cargoes in the West India Docks. These premises comprehend two separate basins, which together cover fifty-four acres, and are capable of accommodating upwards of 500 sail of large merchant vessels. One of these docks is surrounded by ranges of commodious warehouses for storing the produce when landed. The West India Docks are situated in the Isle of Dogs, and have communications with the Thames, both at Blackwall and at Limehouse, so that vessels homeward-bound, which enter at the former spot, thus avoid the circuitous course up the river. The City Canal, which was cut in order that ships frequenting the port of London might avoid this circuit, was not much used, and has been purchased within the last few years by the West India Dock Company: it now forms a third dock belonging to that establishment with which a communication has been made.

The East India Docks, which consist of two basins with warehouses, have their entrance from the river at Blackwall. This concern was undertaken by persons closely connected with the East India Company; and the docks and warehouses are mostly occupied by the ships and goods belonging to that body.

The Commercial Dock was formerly used by ships employed in the Greenland and Davis Straits whale fishery; and here their cargoes were landed and the blubber boiled in order to extract the oil. Of late years, however, this trade has left the port of London, and the proprietors of the dock have in consequence thrown it open to the more general purposes of trade: it is principally used by vessels employed in the East Country and Baltic commerce, and has extensive granaries connected with it for warehousing foreign corn.

The London Docks, in the construction of which, with its magnificent vaults and warehouses, upwards of three millions of money have been expended, are open to vessels in every branch of trade. The dockage consists of two large basins capable of containing 800 large ships; and another, an outer basin, intended for small craft. The tobacco

trade of the port is mostly carried on from this establishment, which has a warehouse exclusively appropriated to the storing of tobacco; the warehouse covers four acres. One of the vaults for keeping wine occupies a space of seven acres.

The growing commerce of the port calling for an extension of dock and warehouse-room, the St. Katharine Docks were in consequence undertaken in 1826, and opened for business in 1828. The ground covered by these docks is twenty-four acres, of which about one-half is devoted to quays and warehouses. A large part of the business carried on at the docks is connected with the commerce to and from India, and with the trade in wines and spirits.

Coasting vessels, and those employed in the cross Channel or Irish trade, discharge and take in their cargoes in the stream. The ships employed in supplying the metropolis with coals discharge their cargoes into barges in that part of the Thames which is called *the Pool*, between the entrance to the London Docks and Limehouse. The number of vessels loaded with coal which entered the port of London in 1831, 1832, and 1833, was, for the respective years, 7006, 7528, and 7077. The whole number of tons introduced by coast and inland navigation for the same years was, 2,053,673, 2,149,820, and 2,014,804. Some further statements, serving to show the amount of the commerce of the metropolis, will be found at the end of this section.

Among the institutions for the advancement of science and the arts, are—the Royal Society, the Royal Institution, the Royal Academy, the British Museum, the Geological, Astronomical, Geographical, and numerous other societies. The Royal Society was established by charter, granted by Charles II. in April, 1663. In this document, the members are styled the "President, Council, and Fellows of the Royal Society of London, for improving Natural Knowledge."

The Royal Institution for the Promotion of Mechanical Improvements, and the Application of Science to the common purposes of Life, was founded through the exertions of Count Rumford, under the patronage of King George III., who gave it a charter. This establishment has gained celebrity from having been the scene of the important investigations and discoveries of Sir Humphry Davy. The building of the Institution, which is situated in Albemarle Street, contains an extensive and well-furnished chemical laboratory, a library, and a commodious lecture-room.

The Royal Academy was instituted in 1768, for the purpose of encouraging the arts of painting, sculpture, &c. Sir Joshua Reynolds was its first president. The Academy is under the direction of forty artists. Five professorships are attached to the institution, which embrace the subjects of painting, architecture, anatomy, sculpture, and perspective. The professors read annual courses of lectures. There is an annual exhibition in the rooms of the Academy at Somerset House of new works of art in painting and sculpture. This exhibition, which is generally opened early in May, continues to about the end of June. The sum paid for admission is 1*s*., which, with the sale of the catalogues, is sufficient to defray the expenses of the establishment. One of the principal objects of the Royal Academy is a School of Design, in which instruction is given by nine Academicians annually appointed.

The British Museum is in Great Russell Street, in a building which formerly was the residence of the Duke of Montague. The origin of this national establishment must be ascribed to the testamentary offer of Sir Hans Sloane, which was accepted by Parliament; 20,000*l*. was paid to his executors for a collection of books and objects of antiquity and natural history, which had cost the sum of 50,000*l*. The Museum was opened to the public in the beginning of 1759. Since that time the collection has been enriched by numerous bequests and purchases, and its library has been increased under the Copy right Act, which obliges the publisher of every work to deliver, without charge, on application being made for them, eleven copies of the same to as many public institutions, of which the British Museum is one. The building has lately been much enlarged for the reception of the splendid library of George III., for the accommodation of the Athenian marbles, brought to England by Lord Elgin, and for other objects. The large room of mineral specimens is over the new library: this collection was purchased by Parliament for the sum of 35,000*l*. The Museum is open to the public free of all charge

every Monday, Wednesday, and Friday, with the exception of the months of August and September, and some few holidays. Admission to the reading-room, which is open daily from ten till four, all the year, except a few short vacations, is easily obtained.

In addition to the public institutions already described, London contains several others of a more private nature, which are deserving of some notice. Among these is the Society for the Encouragement of Arts, Manufacturers, and Commerce, which offers premiums and medals for the communication of useful inventions and improvements. The rooms of the Society contain a repository of models and machines in every department of the economical and useful arts; the whole of which are open to public inspection. The principal room in the Society's house in the Adelphi is ornamented by a series of allegorical paintings by the late James Barry. The library of the Society is well chosen, rather than extensive; the members have the privilege, under certain restrictions, of taking the volumes to their own houses, as well as using them in the library.

London contains between forty and fifty endowed schools, in which nearly 4000 children are educated and maintained. These schools are for the most part under the management of different corporate companies. In addition to these, almost every parish supports a free school by the voluntary contributions of its inhabitants, and by their means about 11,000 or 12,000 children, of both sexes, are clothed and educated. Christ's Hospital, more generally known as the *Blue Coat School*, was established in the reign of Edward VI., and received a second charter from Charles II. The management of this institution, the annual expenditure of which amounts to about 40,000*l*., is vested in the corporation of the City of London, and in those who are benefactors to a certain amount. From 1000 to 1200 children are educated, clothed and boarded in this establishment. The boys receive a classical and mathematical education, and are otherwise prepared to fill situations in mercantile counting-houses. The buildings are situated on the north side of Newgate Street, a short distance from St. Paul's Cathedral. A great part of them have recently been rebuilt in a very handsome style. The new hall is one of the finest in England. This institution has likewise an establishment at Hertford, where the younger pupils reside till they are twelve years of age.

The Charter House, more properly called the *Chartreux*, from its having originally been a convent of Carthusian monks, was purchased in 1611 by Thomas Sutton, the founder, from the Earl of Suffolk, for the then large sum of 13,000*l*., and was converted, at a further expense of 7000*l*., into an hospital and free-school; and for its support estates were assigned by the same individual of the then annual value of 4500*l*. The estates are now worth about 20,000*l*. per annum. The scholars are instructed in classical learning. Such of the scholars on the foundation as proceed to one of the Universities have an allowance, while there, of 80*l*. per annum for the first four years, and 100*l*. per annum for the next four years. Other boys are put out as apprentices, when their time of scholarship is ended; and a fee of 60*l*. is given with each from the funds of the institution. In addition to the boys placed upon the foundation, the masters have the privilege of taking others for instruction. The number of these pupils was some years ago very great.

The school under the management of the Company of Merchant Taylors was established in 1561, and is supported by the Company. It provides education for 250 boys. The Mercers' Company has likewise a school supported by its funds, and carried on in a handsome building recently rebuilt in College Hill. St. Paul's School, which has been lately rebuilt, on the east side of St. Paul's Churchyard, is under the management of the same corporate company: 153 boys receive a free education in this establishment. This school was founded in 1518 by Dean Colet. The present income is about 5000*l*. per annum.

Westminster School was founded in 1560, by Queen Elizabeth, for the classical instruction of forty boys, who are called King's scholars; there are also four boys on Bishop Williams's foundation. In addition to these, other pupils are educated. Westminster School joins the Abbey, and is part of the Collegiate establishment.

The British and Foreign School Society has its principal establishment in the Borough-road, Southwark, where instruction is given to about 800 boys and girls, besides persons who are

afterwards entrusted with the management of schools conducted upon the system of mutual instruction, introduced by Joseph Lancaster.

The central school of the National Society, for instructing children in the principles of the English church, is in the Sanctuary near to Westminster Abbey. Upwards of 30,000 scholars receive instruction in the metropolis alone, in schools connected with these two societies; but much the larger number is in connexion with the National Society.

The London University, situated at the top of Gower Street, is a large building, but still unfinished. The University comprehends a well attended medical department, classes for general instruction, and an extensive school. It opened in the autumn of 1829. An hospital, called the North London, has just been erected opposite the University buildings, for the improvement of the medical department of the University, and the accommodation of the neighbourhood. King's College, as we have mentioned, forms the eastern wing of Somerset House: it opened in 1831, and contains a medical school, classes for general instruction, and a large school; theological instruction according to the doctrines of the English church is included in the regular course. King's College has a charter of incorporation; but neither this College, nor the London University, has yet received the power to confer degrees.

The principal hospitals in the metropolis are—St. Thomas's and Guy's Hospitals in Southwark; St. Bartholomew's, West Smithfield; the London Hospital in the Whitechapel Road; the Middlesex Hospital, in Charles Street, Cavendish Square; St. George's Hospital at Hyde Park Corner; the Lock Hospital in Grosvenor Place; and the Small-pox and Fever Hospitals at King's Cross. Besides these, there are Bethlehem and St. Luke's Hospitals, for the reception of lunatics, the former in St. George's Fields, Southwark, the latter in the City Road: four Lying-in Hospitals, in different quarters of the town, and various infirmaries for the cure of diseases of the eye and ear, and other specific disorders. Almost every district has also a dispensary, to which medical officers are attached, who give advice to the resident poor in cases of illness or accident. Every parish likewise provides medical aid for the paupers within its limits. Some of the larger hospitals of London are richly endowed; their medical officers are chosen from among the practitioners of London, most of whom deliver lectures upon the different branches of medical science.

Newgate, the common gaol for London and Middlesex, is capable of properly accommodating between 300 and 400 prisoners; but this number is frequently exceeded, and upwards of 900 prisoners have been crowded at one time within its walls. It is situated in the Old Bailey, a short distance north-west of St. Paul's Cathedral. London, Westminster, and Southwark together, contain seven other prisons for criminals; and besides these, three places of confinement for debtors, the King's Bench prison in Southwark, Fleet prison in Farringdon Street, and another in White Cross Street, Cripplegate. By an act passed in July 1834, which came into operation on the 1st November following, a new court was established, under the name of the Central Criminal Court, for the trial of offences committed in the metropolis and parts adjacent, in the counties of Middlesex, Essex, Kent, and Surrey. Under the provisions of this act, Sessions are to be holden in London, or the suburbs, twelve times at least in every year. The sittings are held in the building attached to the prison of Newgate: the judges of the court appointed by the act, only a part of whom attend at any one time, are—"the Lord Mayor of London, the Lord Chancellor, the Judges of the Superior Courts at Westminster, the Judges of the Court of Review, the Aldermen, Recorder, and Common Serjeant of the city of London, and such others as his Majesty may appoint."

Offences committed on the high seas, and other places within the jurisdiction of the Admiralty of England, which used previously to be brought under the notice of the Court of Admiralty, are now disposed of in the Central Criminal Court.

The number of persons charged with criminal offences of all degrees, who were committed to the prisons of the metropolis during the seven years ending with 1832, amounted to 24,564: of these, 8197 were acquitted, leaving 16,367 persons found guilty of crimes of various descriptions. This number gives an annual average of 2338 out of nearly a million and a half of inhabitants. But on the average, 1115 of these convicts,

being nearly one-half, were guilty only of small offences for which imprisonment for various periods under six months was considered sufficient; and, in addition to this fact, it may be stated, that many of those committed were incorrigible rogues, who were scarcely discharged from prison before they qualified themselves for entering it again; the number of *prisoners*, it thus appears, is greater than the actual number of individual criminals.

The chief places of public amusement in the metropolis are the theatres, some of which are open at every season of the year. It is objected to the great theatres, that they are on too large a scale, and that the public would be better served if they were smaller and more numerous. The largest and handsomest of these buildings is the King's Theatre in the Haymarket, which is exclusively appropriated to the representation of foreign operas. The theatres in Drury Lane and Covent Garden were intended for the representation of English dramas, and are each of them large enough to contain more than 3000 spectators. They are both handsome edifices. Besides these, the metropolis contains eleven theatres situated in different places.

For out-of-door amusement the principal place of resort is Vauxhall Gardens, where, in the summer season, concerts are performed three nights in each week. On these occasions, the gardens are spendidly illuminated, by many thousand lamps disposed among the trees, and each evening's amusement terminates with a display of fireworks. These gardens, which are situated near the Thames, on the Surrey side, about a mile higher up than Westminster Bridge, have been a favourite place of resort since the days of Addison, and probably from even an earlier date.

The parks, which have been greatly improved of late years, offer means of healthful recreation to the inhabitants. According to a late Parliamentary Report, we may hope to see the public places, or parks of London increased in number. Several populous districts are still entirely without accommodation of this kind in their vicinity. St. James's Park, which is situated between Westminster and Pimlico, was drained, inclosed, and planted in the time of Henry VIII. when St. James's Palace was built. It was afterwards enlarged and improved by Charles II.; but it was not until after the revolution of 1688 that the people generally were allowed free access to the walks in this park. Within the last few years, the interior area of the park has been greatly improved by converting the formal canal which it contained into an ornamental piece of water, and by tastefully laying out the lawn in walks and shrubberies.

The Green Park is only separated from St. James's Park by an iron railing, and forms part of the ground inclosed by Henry VIII. It extends northward as far as Hyde Park, from which it is divided by the Knightsbridge Road. A road, to which the name of Constitution Hill has been given, runs through the Green Park, uniting St. James's with Hyde Park. This last-mentioned place, which comprises very nearly 400 acres, takes its name from having been formerly the Manor of Hyde, belonging to Westminster Abbey. Hyde Park contains a considerable sheet of water, which, although in the form of a parallelogram, has been whimsically called the *Serpentine river*. This park has long been a place of fashionable resort, especially on Sundays, when between the hours of two and five it is usually thronged both with pedestrians and numerous fine equipages.

Kensington Gardens form the western boundary of Hyde Park. Kensington Palace was purchased as a royal residence by William III., whose queen took much pleasure in improving the gardens. They were, however, laid out in their present form by Queen Caroline, the wife of George II. They are about three miles and a half in circumference, and contain a great number of magnificent trees. The palace is of irregular construction, without pretension to architectural beauty. It forms the residence at present of the Duke of Sussex, and of the Duchess of Kent, with her daughter, the presumptive heiress of the British throne.

One of the greatest ornaments of the metropolis is the Regent's Park, which lies on the north side of the New Road, between it and Hampstead; the entrance at the south-east angle is close to the Crescent at the end of Portland Place. The park is the property of the crown; and was laid out in its present ornamental form in 1814. This park, which is of a circular form, comprises about 450 acres. It is planted with ornamental trees and shrubs and con-

tains a fine sheet of water. Some handsome villas have been built in its interior area, and its borders are occupied by several fine terraces, or ranges of buildings, highly ornamented, some with colonnades and pillars, and others with allegorical groups and figures. The Colosseum, a very large building on the south-east side of the park, was built to exhibit a panoramic view of London, taken by Mr. Horner from the top of St. Paul's Cathedral. This building is a polygon with sixteen faces, each twenty-five feet, and its extreme height is 112 feet from the ground. Besides the panorama, the Colosseum contains conservatories, fountains, and waterfalls, and some curious works of art. The garden of the Zoological Society is situated on the north-east side of this park. The grounds are laid out with much taste, and are ornamented with shrubs and flowers. The collection both of birds and quadrupeds, which is extensive, is continually receiving accessions, through the exertions of the managers of the Society and the public spirit of individuals. This rational place of amusement has become highly popular with the inhabitants of the metropolis, and is visited by most strangers who resort to London. In 1832, the garden was visited by 218,385 people; the money received for admission was 9001*l.* 16*s.* Each person, not a proprietor, or not introduced by one, pays 1*s.* Another Zoological Garden has been established on the south side of the river.

There are no means for forming a correct estimate of the quantities of each kind of provision consumed in London. An account is kept of the number of cattle sold in Smithfield Market: but as a great deal of meat is killed in the country, and the carcases sent up by land-carriage, while, on the other hand, all the beasts sold are not immediately slaughtered, this account does not afford correct data for calculation. A great deal of cattle is also brought by steam-boats from Scotland and elsewhere. It is known, likewise, how many quarters of wheat and sacks of flour are brought coastwise, or imported from Ireland or foreign parts, into London: but a great deal of flour finds its way to the hands of the dealers by land-carriage, from the neighbouring counties of Kent, Surrey, and Hertfordshire, and some of what is entered at the Custom House is again sent away from London. It may be as well, however, to state, as the best approximation we can make, the number and quantities brought under the notice of the civil and municipal authorities. These, in the year 1831, were, of beasts, 148,168; of sheep, 1,189,010; and of wheat and flour, equal to 1,535,520 sacks of flour.

Smithfield, is the only metropolitan market for the sale of live stock. There is likewise but one place (Mark Lane) for the sale of grain; and only one wholesale fishmarket (Billingsgate), which is situated at the western extremity of the Custom-house, and is held daily, except Sunday. There are, however, numerous markets, where almost every article of provisions may be procured: and besides, there is no spot in the whole metropolis in the immediate vicinity of which numerous shops may not be found for the supply of every article of necessity and luxury.

The supply of coals to London is of course continually increasing with the extension of buildings in the metropolis, and the growth of its manufactures. In 1820, the quantity brought into the port was equal to 1,685,641 tons; and in 1832, it amounted, as before stated, to 2,149,820 tons.

London is brilliantly lighted with coal-gas, for which purpose several joint-stock companies have been incorporated with very large capitals. The "Gas Light and Coke Company" was the first established, having received its charter of incorporation in 1812: it has expended upwards of 600,000*l.* on its works, which are situated in Peter Street, Westminster; in Brick Lane, Old Street, and in the Curtain Road, Shoreditch. The "City Gas Light Company" has its works by the river side, a short distance to the westward of Blackfriars Bridge. This company has expended more than half a million of money on its works and pipes. An equal sum has been laid out by the "Imperial Company," which was established in 1823, and has its works at King's Cross and the Hackney Road. The "British," the "Independent," the "Equitable," and the "Ratcliff" Gas Companies are upon a smaller scale than the three first mentioned. The number of lights supplied by these establishments is upwards of 60,000, and their aggregate incomes for light amounts to at least 250,000*l.* per annum.

Water, one of the first necessaries of life, is also supplied to the inhabitants

of the metropolis in great abundance, through various joint-stock associations. The earliest of these, and the most considerable, is the New River Company, already mentioned. This great work was undertaken and brought to a successful completion by an individual citizen, Hugh Middleton, who ruined himself by a speculation, which has formed the source of great wealth to others. The number of houses supplied by the New River Company, was ascertained, in the year 1828, to be between 66,000 and 67,000, and the quantity of water distributed daily was above two millions of cubic feet, or thirteen millions of gallons. The East London Water Company has its works at Old Ford, and supplies the eastern part of London and its suburbs; the pipes belonging to this company exceed 200 miles in length. The West Middlesex Company has a reservoir at Kensington, and supplies 15,000 houses. The Chelsea Company has works at Thames Bank, whence it fills two reservoirs in the Green Park and in Hyde Park: it supplies 12,000 houses. The Grand Junction Company's works are also at Chelsea, whence water is forced into three reservoirs at Paddington, for the supply of about 8000 houses. The Hampstead Company supplies the neighbourhood of Camden Town, and other parts adjoining, from the ponds at Hampstead and Highgate. It was ascertained in 1828, by commissioners appointed to inquire concerning the supply of water to the metropolis, that the companies here mentioned, together with two on the south side of the river, then distributed daily 4,650,000 cubic feet, or about twenty-nine millions of gallons. In 1833 the supply is said to have been 35,000,000 of gallons daily. There can be no doubt, that the healthiness of this crowded city is in a great measure attributable to the means of cleanliness thus afforded; but the supply of good water is still insufficient.

The city of London possesses the most ancient charter of incorporation in the kingdom. About the beginning of his reign, William I. granted this charter to the citizens, in which he recognized and confirmed the privileges enjoyed by them in the time of Edward the Confessor. This document, beautifully written on parchment in the Saxon character, is said to be preserved in the archives of the city, on a slip of parchment six inches long and only one inch broad. This charter was renewed and extended by succeeding kings; that of Henry I. being next in order of time, though it does not exist at present. It appears incidentally from a charter of Henry II., that in this reign Southwark was under the jurisdiction of the Corporation of London. In the reign of Edward III. the chief magistrate was first called Lord Mayor. The civil government of the city and its dependencies is vested in the lord mayor, two sheriffs (who together form one sheriff for the county of Middlesex), twenty-six aldermen, including the mayor, one for each of the wards into which the city is divided, and a common-council, consisting of 240 members, who are annually chosen by the qualified freemen residing in twenty-five of the wards. The aldermen are chosen by the same constituency, but their election is for life. The lord mayor is elected on Michaelmas day of each year from among those of the Court of Aldermen who have already served the office of sheriff. This election is carried on in the Guildhall; the right of nominating two aldermen (one of whom must be chosen by the Court of Aldermen) is in such freemen of the city as are also liverymen of some one of the corporate companies. The election is not valid until the lord mayor elect has been presented for approval to the Lord Chancellor on the part of the king, and has been sworn before the Barons of the Exchequer, to the due performance of the duties of the office. The cavalcade, commonly known as the lord mayor's show, which accompanies the chief magistrate to and from the Court of Exchequer on this occasion, when he enters upon his office, consists of a very numerous and showy retinue, made up of the recorder, sheriff, aldermen, and liverymen of the various companies, with the other officers of the corporation. He always presides at the sessions of oyer and terminer and gaol delivery of Newgate, and his name is placed first in the commissions issued under the Act establishing the New Central Criminal Court (4 and 5 Will. IV. c. 36).

The sheriffs are chosen annually from among the freemen. This is considered an onerous office; any freeman who is elected is obliged to serve, under a penalty of 400*l*., unless he can swear he is not possessed of property to the value of 15,000*l*.

The recorder, who, in the absence of

the lord mayor, presides in the criminal courts of the city, is chosen by the Court of Aldermen, for life.

There are eighty-one corporate companies in the city of London. Every retail dealer and broker, trading or practising within the city, must be a freeman of the city, to obtain which privilege he must belong to some one of the companies. Some of these companies have considerable estates, from the revenues of which they support such of their members as fall into decay, maintain certain exhibitions, &c. at some of the colleges, and also give occasionally sumptuous feasts. Several of these companies are trustees for endowed schools in London and elsewhere. About one-half of them have halls, in which the members meet for the transaction of business, and on certain occasions for festive purposes. Some of these halls are handsome buildings, and contain valuable paintings.

Meetings for the general affairs of the corporation are always held in the Guildhall. Here the aldermen have a chamber, in which they deliberate apart, while another chamber is appropriated to the members of the court of common council, at which the aldermen have the right of being present and voting: the lord mayor is the presiding officer in both these courts. What are called common halls, are assemblies of the freemen of the city, who are liverymen of the corporate companies. Besides the stated occasions, when the citizens meet in common hall for the election of the lord mayor and sheriffs, this aggregate court may be convened on the requisition of several members of the livery, addressed to the lord mayor, who presides at these meetings.

The foregoing description of London is necessarily incomplete. To give a minute account of all that it offers deserving of notice, would require a large volume. The more remarkable places also in the environs of London, which are situated within the county of Middlesex, are of a magnitude which would demand a more particular notice if they occurred in any other part of the kingdom, although, from their proximity to such a vast metropolis, they may appear insignificant.

About two miles north of London, and near the borders of Essex, is the extensive village of Hackney, which includes within its limits the hamlets of Upper and Lower Clapton, Homerton, Shacklewell and Dalston, and contains altogether a population of 31,047 persons. Hackney is the birth-place of Howard the philanthropist. The nursery grounds of Messrs. Loddiges, at Hackney, contain, perhaps, the finest collection of exotic plants in the kingdom. In the London Orphan Asylum, situated at Clapton, in this parish, 300 children, the destitute orphans of respectable parents, are boarded, clothed and educated: this institution is supported by the voluntary contributions of its governors. There is a good establishment at Hackney Wick, supported by the Society for the Suppression of Juvenile Vagrancy.

The situation of Islington has already been mentioned. It is in a manner joined to London by unbroken lines of buildings through the different approaches to it. It is a large and populous place, numbering 37,316 inhabitants at the census of 1831. A house, now occupied as the Pied Bull Inn, is said to have been inhabited by Sir Walter Raleigh. Highbury, a division of Islington parish, contains a college for the education of dissenting ministers, of the sect of Independents. At Canonbury, another of its divisions, is an ancient tower which formed part of a mansion built by the priors of St. Bartholomew. Islington forms part of the newly-enfranchised borough of Finsbury

Highgate stands on one of the highest hills in the county: it is about four miles north of London, and to the north-west of Islington. The great north road from London passes by Highgate. In order to remedy the inconvenience occasioned by the steepness of the hill, an attempt was made in 1813 to form a tunnel through it. When the excavation had proceeded for some distance the earth fell in, and the work was converted into an open cutting with an archway thrown over it, under which the north road is carried; another road crosses it at right angles, and passes over the archway. From the top of the arch, there is a very extensive view of the surrounding country, and part of the metropolis. Highgate contains a well-endowed grammar school.

Hampstead lies about a mile to the west. The village is built on the declivity of a hill, on the top of which is an extensive heath. Several ineffectual attempts have been made within the last few years to obtain an act of Par-

liament for inclosing this heath, the ground of which is valuable from its proximity to London and the purity of the air. Hampstead has a chalybeate and two medicinal springs, now in little repute. From Child's Hill, situated on the west side of the heath, the prospect is very extensive, and includes a distant view of Windsor Castle. Hampstead, in 1831, contained 8,588 inhabitants.

The village of Chelsea, two miles from Westminster, is situated on the Thames. This place is celebrated as having been the residence of Sir Thomas More, to whose memory a monument exists in the old church. Sir Hans Sloane, whose library and collection were the foundation of the British Museum, also resided in Chelsea. The Botanical Garden, belonging to the Apothecaries' Company, which is situated at Chelsea, was bequeathed to that corporation by Sir Hans Sloane. The objects which at the present day render Chelsea of importance, are the Military Hospital or College, and the Royal Military Asylum. The first-mentioned was founded by Charles II. on the site of a college founded by his grandfather, James I., for the study of controversial divinity. The building was not completed until 1690, in the reign of William III., when it was opened for the reception of old and maimed soldiers of the British army. The building, which is of brick, is 790 feet in length, and occupies, with its surrounding grounds, forty acres of land. The number of pensioners constantly maintained in this hospital is 400, which number, forms however only a small part of the pensioners supported by its funds; the principal part of these being out-pensioners, with an allowance of 5*d.* each per diem. The income of the hospital is derived from stoppages out of the pay of soldiers and officers belonging to the army, with some occasional aid from Parliament.

The Royal Military Asylum owes its foundation to the late Duke of York. It was erected in 1801, and is used as a school for educating the children of soldiers. Of these, 700 boys and 300 girls are constantly maintained and instructed; the system of education is that introduced by the late Dr. Bell. There is a handsome new church at Chelsea. The population of Chelsea parish is 32,371.

Fulham is a village on the north bank of the Thames, four miles higher up than Westminster. The palace of the Bishop of London is situated in this parish, a little to the west of the village. The neighbourhood of Fulham is also noted for its market gardens, from which large supplies of fruit and vegetables are constantly sent to London. A wooden bridge across the river at Fulham connects Middlesex with Surrey at Putney.

Hammersmith, a chapelry in the parish of Fulham, stands on the north bank of the Thames, on the great west road. This village is principally remarkable for a very elegant suspension bridge, which was erected in 1827, across the Thames, at an expense of about 80,000*l.* This bridge consists of a horizontal roadway, suspended from iron chains, which are carried over stone piers and archways on each side of the river, and secured to substantial abutments. The roadway is 822 feet long and twenty feet wide, with a foot-path of five feet in addition. Hammersmith and Fulham together contain a population of 17,539 inhabitants.

Chiswick, higher up the Thames, about six miles from Westminster Bridge, is chiefly to be noticed as having been the burial-place of several remarkable persons. Among these, are Mary, Countess of Faulconberg, daughter of Cromwell; Lord Macartney, who conducted the embassy to China; and Hogarth. Chiswick House, the residence of the Duke of Devonshire, is a fine building, containing many valuable works of art; the grounds are laid out with much taste. The extensive garden of the London Horticultural Society is at Chiswick. The population of Chiswick amounted in 1831, to 4994 persons. The villages above described are all in Ossulston Hundred.

Brentford is a market town in Isleworth Hundred, likewise on the Thames, and seven miles and a half west of Piccadilly. It is a place of considerable business, with several large manufactories, one in particular, of great magnitude, for making soap. The town has nothing to recommend it as regards its appearance. In a field adjoining the town, the freeholders of the county are accustomed to meet for the nomination of their representatives in Parliament. The market is held on the Tuesday of every week. Osterley Park, the seat of the Earl of Jersey, a noble mansion with beautiful grounds, is situated near Brentford.

Between Brentford and Isleworth, a short distance higher up the river, is another princely mansion, Sion House, the seat of the Duke of Northumberland. The building, which is of ancient date, was repaired by Inigo Jones, but since his time has been so much altered that it presents a modern appearance. The grounds contain a very fine conservatory, and are besides remarkable as containing some mulberry trees, which are said to be the first planted in England.

Hounslow is a town about nine miles west from London, near the centre of Isleworth Hundred, on a branch of the river Colne, and on the edge of what was formerly an extensive heath, a great part of which has been inclosed. On this heath were many vestiges of ancient encampments. The parish of Hounslow contains several powder-mills, and a considerable mill for rolling copper.

Twickenham, in Isleworth Hundred, about ten miles and a half from Westminster, presents some very beautiful scenery. This village possesses an interest likewise from its having been the residence of Pope, where he wrote a great part of his poems. The house in which he resided has given place to one more commodious; but the grotto which he constructed in the grounds still remains, together with an obelisk which he raised to the memory of his mother. Pope himself was buried in Twickenham church. Strawberry Hill, near the village of Twickenham, is likewise considered classic ground, from its having been the residence of Horace Walpole. It was his delight to embellish the ridiculous Gothic structure which he erected on this spot; and he enriched it with a choice collection of paintings, sculptures, and various objects of antiquity.

The royal palace of Hampton Court, situated on the banks of the Thames, in Spelthorne Hundred, is about thirteen miles from London. This spacious building was erected by Cardinal Wolsey, on the site of a house belonging to the Knights-Hospitallers, and was by him presented to King Henry VIII. From that time to the reign of George II. inclusive, Hampton Court was the occasional residence of our kings and queens. The palace was enlarged, in 1694, by Sir Christopher Wren, who built the principal front which contains the state apartments. These are embellished with many portraits and emblematical paintings by several artists of celebrity; in an apartment which for that reason is called the Cartoon Gallery, are kept, at present, part of the Cartoons of Raphael. The gardens of Hampton Court Palace are very extensive, and are ornamented, in a manner very common during the last century, by a profusion of statues and vases. One of the finest vines in Europe is in a green-house in these gardens. This vine was planted in 1769; the branches cover a surface of seventy-two feet by twenty, and in one season the vine has produced more than 2000 bunches, weighing 1800 weight.

Bushy Park, near Hampton Court, was occupied by his present Majesty, when Duke of Clarence, and is still in the possession of the Queen, who has been appointed ranger of the park. It contains a magnificent avenue of horse-chestnut trees, planted by William III.

Staines is a market town in Spelthorne Hundred, on the banks of the Thames, near the spot where that river leaves the county, and sixteen miles from London. The jurisdiction possessed by the corporation of London over the western part of the Thames ends at Staines. A stone near the church, on the margin of the river, marks this boundary, and bears the inscription of "God preserve the City of London. A.D. 1280." It is conjectured by Camden, that the town derived its name from this stone. Staines is connected by a handsome new stone bridge with the county of Surrey.

The town of Uxbridge, in the parish of Hellingdon, in Elthorne Hundred, is fifteen miles from London, and near the borders of the county adjoining to Buckinghamshire. The river Colne runs at the west side of the town. A very ancient building, now the Crown Inn, is also known as the Treaty-house, from the circumstance of the Commissioners of the Parliament and of Charles I. having met within it in 1644. Uxbridge has a considerable grain market, and many grist mills whence large supplies of flour are sent to London.

Harrow-on-the-Hill is a village in Gore Hundred, nine miles and a half from London. It stands on one of the highest hills in the county, and commands an extensive prospect. This place is chiefly noted for containing one of the great public schools, which was founded by John Lyon, of Harrow, in 1585. Every person who is an inhabit-

ant householder in the parish of Harrow has the right of sending his sons to this grammar school for instruction; but the great supply of pupils is from other parts of the country, who are chiefly boarded with the various masters.

The only remaining place in the county that requires any particular mention is the town of Enfield, situated in Edmonton Hundred, nine miles north of London. Enfield was much celebrated in former days for its Chase,—a large tract of woodland, well stocked with deer. During the civil wars, the timber was cut down, the deer destroyed, and the land parcelled out into small farms. After the Restoration, these farms were resumed, and the land once more planted and stocked with deer; but it was again disforested in 1779 by Act of Parliament, and the lands disposed of on the part of the crown. In the town of Enfield are the remains of an ancient palace, in which it is said Edward VI. once held his court.

Population of the metropolis and the market-towns, within Middlesex:—

London within the walls	55,778
London without the walls	67,905
Finsbury division	151,409
Holborn division	346,255
Kensington division	87,961
Tower division	359,864
Westminster	201,842
Southwark (in Surrey)	91,501
Metropolis	1,362,515
Brentford	2085
Enfield	8812
Edgeware	591
Uxbridge	3043
Staines	2486

The town of Hounslow is partly in Heston parish, which contains 3407 inhabitants, and partly in that of Isleworth, which contains 5590. The proportion of these contained in Hounslow is not given.

The authorities used for the description of Middlesex are the following:—

Natural History of Middlesex.

Middleton's View of the Agriculture of Middlesex.

Lysons's Environs of London.

The Chronicles of London, from 1089 to 1483, written in the fifteenth century, first published from the MS. in 1827, by Nicholas Harris Nicolas, Esq.

Chronicles of London Bridge.

The Picture of London.

Brayley's Londiniana.

Cook's Walks through London.

Views of London, 1825.

Besides the above works, more peculiarly relating to Middlesex, there are others from which assistance has been derived for the general description of most of the counties, and many of the towns of England. A list of these works is here subjoined, as serving for general reference throughout the description of England. The titles of works of a local character are placed after the descriptions of the respective counties.

Camden's Britannia, edited by Gough.

Leland's Itinerary, 1538.

Lysons's Magna Britannia.

Beauties of England and Wales.

England described by Aikin.

Watford's Scientific Tourist in England, Wales, and Scotland.

Gilpin's Observations on the Western Parts of England.

Kendall's Picture of England and Wales.

Young's Farmer's Tour through England.

Statistical Illustrations of the Territorial Extent, &c., of the British Empire.

Stukeley's Palæographia Britannica.

Grose's Antiquities of England, Ireland, and Scotland.

Smith's Gaelic Antiquities.

Dugdale's Monasticon Anglicanum.

Britton's Architectural Antiquities of Great Britain.

Willis's History of Mitred Parliamentary Abbeys.

Milner's Ecclesiastical Architecture of England.

Rickman's List of Churches.

Conybeare and Phillips's Outlines of the Geology of England and Wales.

Greenough's Geological Map of England, with a List of English Hills.

Smith's Map and Delineation of the Strata of England and Wales, with a Memoir.

Priestley's Inland Navigation.

Bradshaw's Maps of Canals.

Skrine's Rivers of Great Britain.

Trigonometrical Survey of England.

Cary's Itinerary, with County Maps.

Reports from Commissioners on proposed Division of Counties and Boundaries of Boroughs.

Ordnance Maps, as far as they go.

Campbell's Political Survey of Britain.

Carlisle's Description of the Endowed Grammar Schools of England and Wales.

An Analytical Digest of the Reports made to Parliament by the Commis-

sioners upon the Public Charities for 1832.

Rickman's Abstract of the Answers and Returns made under the Population Act.

Official Tables of the Revenue, Population, &c. of the United Kingdom.

Reports on Municipal Corporations.

HERTFORDSHIRE

Is bounded on the south-west and west by Buckinghamshire on the north-west by Bedfordshire, on the north by Cambridgeshire, on the east by Essex and on the south by Middlesex. Its greatest length from east to west is about 35, from north to south 25 miles. Its circuit, which is very irregular, is between 130 and 140 miles; and its area about 528 square miles. The general appearance of this county, is that of highly cultivated lands, inclosed and thickly intersected with live hedges, in which trees are planted, affording much useful timber. Towards the north, the country is hilly, and crossed by a part of the Buckingham and Bedford chalk ridge which extends along the northern limits of the county in a north-east direction.

The principal rivers of Hertfordshire are, the Lea and its affluents, the Mimram, the Beane, the Rib, the Ash, and the Stort; and the Colne with its affluents, the Ver, the Gade, and the Chess. The Lea rises near Luton, in Bedfordshire, takes a south-eastern direction into Hertfordshire to Wheathempstead, and winding to the east, reaches Hertford, where it is increased by the confluence of the Mimram, which rises in the north-west part of the county, and of the Beane, which has its source more to the north; from Hertford the united stream runs in an east-north-east direction to Ware, having in its course, about midway between the two towns, received the waters of the Rib. The Rib rises in the north-east part of the county, at Conybury, about a mile north of Buntingford, and in its course receives another small stream, called the Quin, which rises between Anstey and Widdiall to the north-east. From Ware the Lea runs south, and at Broxbourn, about five miles south of Ware, forms the boundary between Essex and Hertfordshire, and finally leaves the county, near Waltham Abbey. About a mile below Ware, this river receives the Ash, a small stream, which rises near Essex on the north-east, and near Hoddesdon the Lea is joined by the Stort, which forms part of the boundary between Essex and this county. In the reign of Henry VI. the attention of Government was drawn to making the Lea navigable; for this purpose, a few dams were formed in the upper part of the river, in order that a sufficient depth of water for floating boats might be procured. These means were, however, found very inadequate; and, in 1767, application was made to the celebrated engineer, Smeaton, to improve these imperfect works. A canal was then made from Hertford, where the river is 111 feet 3 inches above the level of the sea, to near the junction of the Stort with the Lea, not far from Hoddesdon; from this point various cuts were made to Tottenham. From Lea Bridge, at Clapton, another cut was made to Oldford, near Bow Bridge. From Bromley there is a cut a mile and a half long into the Thames at Limehouse, by which the circuit of the Isle of Dogs in the Thames navigation is avoided. At Oldford, a little below Temple Mills, a cut a mile in length was made in 1824, communicating with the Regent's Canal at Bethnal Green. By these numerous cuts the sinuosities of the old river are avoided, and an easy navigation for barges is thus made from the Thames to Hertford; the whole length of line along the river and canals is about twenty-five miles. Throughout this distance there are numerous locks.

The Colne is formed by the junction of several small streams, which unite in the parish of North Mims; it then takes a south-west course to London Colney, and continuing the same direction, about half way between St. Alban's and Watford it is joined by the Ver, or Verulam, a much more considerable branch, though the Colne gives its name to the united stream; as far down as this point the Colne is a very insignificant river, unless after heavy rains, when it is full of water, and very muddy. From Watford the Colne takes a western course to Rickmansworth, where it is joined by the Gade and the Chess, and enters Middlesex at the north-west angle of that county. Near Colney Park this river has a short underground passage. The Ver rises at Rowbeech, near Merkyate Street, passes St. Alban's in a south-east course, and then takes a nearly south direction, till it joins the Colne. The Gade has its source near the borders of Buckinghamshire, takes a

south-east course to near Hemel Hempstead, when it runs in nearly a south direction to Rickmansworth. The Chess rises near Chesham in Buckinghamshire, enters this county near Sarratt, and takes a south-east course, till its junction with the Colne.

The New River, with the springs from which it has its supply, has already been noticed in the description of Middlesex. The Grand Junction Canal enters this county five miles north-west of Berkhampstead: at this point it is 402 feet above the Thames. It then passes near Hemel Hempstead and Watford; a branch of the canal communicates with the latter town. The main canal continues in a south-west direction to Rickmansworth, and thence enters the county of Middlesex.

The subsoil throughout this county is mostly chalk, intermixed with silex. On the north, the surface also of the soil is generally chalky; on the north-east it is clayey; in the valleys, the soil is composed of a rich sandy loam. The general quality of the natural soil is not considered very productive, but it is much improved by cultivation. Fine trees, to a considerable amount, consisting chiefly of oak, beech, and elm, are scattered through the county. The land is very much subdivided, and the farms are seldom large, ranging mostly from 150 to 400 acres. "The vicinity to the capital, the goodness of the air and roads, and the beauty of the country, have much contributed to this circumstance, by making this county a favourite residence; and by inducing a great number of wealthy persons to purchase land for building villas; this has multiplied estates in a manner unknown in the distant counties*." At an early period in the agricultural history of England, this county was superior to others in its husbandry; but it has not lately made equal improvement with some other parts. Most of the land is arable, little being appropriated to pasture ground. On the south-west there are many orchards, planted principally with apple and cherry trees. Wheat, barley, and oats, are the chief produce of the county. Wheathempstead, on the river Lea, was formerly noted for the excellence of its wheat, whence it takes its name. There are few manufactories in this county; its principal trade is in corn and in malt. Malting is carried on to a great extent at Hitchin, Baldock, Royston, and Ware.

Hertfordshire is divided into eight Hundreds, comprising 134 parishes, which contain one county town, and nineteen market towns.

To the north are the Hundreds of Hitchin, Odsey, and Edwinstree: to the east, Braughin; in the centre, Broadwater; to the south, Hertford and Cashio; to the west, Dacorum. This county returns three members to Parliament.

Hertford, an ancient town, eighteen miles north of London, sends two members to parliament. It stands on the river Lea, and consists of a few regular streets. It has two parish churches. Among the public buildings are a neat sessions' house, a town hall, a gaol, and penitentiary, arranged on the plan of Howard. Here is also a grammar-school, founded in the reign of James I. A commercial rather than a classical education is given at this school. It has seven scholarships at Peter House, Cambridge, of 14*l*. per annum; but for the above reasons these, for many years past, have not been filled. In the year 673, a synod was held in this town; and a castle was erected by Edward the Elder early in the tenth century.

The present castle was raised on the same site in the time of Charles I., and the few remains of the ancient fortress consist of part of the outer wall and some towers. The castle, as it now stands, is built of brick, and contains numerous small rooms. It is now rented by the East India Company, and is used as a preparatory school to their college, which was established in 1806. The object of the college is to give a suitable education to youths who are about to be appointed to any civil employment under the Company in India. The college buildings are at Haileybury, about two miles and a half from Hertford; besides the residences for the Principal and several professors, there are accommodations for 100 students, between the ages of 15 and 18 years; on an average more than 30 are annually sent from it to India. An establishment, belonging to Christ's Hospital, London, is situated in the out-borough to the north-east. It is a large building, forming three sides of a quadrangle, capable of accommodating 500 children and the necessary attendants.

* Young's General View of the Agriculture of Herts.

This is a kind of nursery school for the younger children on the Blue-Coat School foundation. Hertford is a pleasant, respectable, and busy town. It is well paved and lighted with gas, and is supplied with water from the river Lea by means of water-works. Its principal trade is in mealing and malting: several mills for these purposes are erected on the rivers Lea and Mimram.

Ware, a town on the river Lea, three miles from Hertford, is one of the greatest markets for corn in the county: it sends more than 7500 sacks of oats and wheat weekly for the consumption of the metropolis. The barges which convey grain down the Lea return with coals. This town consists of one long street and several smaller ones. It contains a large church and several charitable institutions.

Bishop's Stortford, a market town, is situated near the borders of Essex, twelve miles east-north-east of Hertford, on the river Stort. The town consists of four streets, built in the form of a cross, running from north to south, and from east to west. The church, which is well situated on an eminence, has a fine lofty tower, and contains many old monuments. There was a free grammar-school here, but it is gone to decay. Malting is the principal business of the place.

Buntingford is a small town on the Rib, eleven miles north by east from Hertford. A grammar-school, founded here in the beginning of the seventeenth century, has four scholarships at Christ's College, Cambridge, of 12*l.* per annum each.

Royston, on the northern limits of the county, eighteen miles north of Hertford, is in a bottom among chalk downs. Two Roman roads cross each other at this town. The one commences on the coast of Sussex, near Newhaven, passes through London, Hertford, Royston, and so proceeds by Huntingdon and Lincoln to the Humber; this is called Ermin-street. The other (Icknield way) begins about Weymouth, and terminates on the Norfolk coast. The church is an ancient structure, the remains of a priory which was founded here in the twelfth century. Malting is the principal business of the town.

Ashwell is situated between sixteen and seventeen miles nearly north of Hertford. Near this place, upon a hill, in Harborough field, are evident marks of a Roman fortification. Roman coins and earthen vessels have been dug up here at different times.

Baldock, fourteen miles and a half north by west from Hertford, contains a church of large dimensions, and a well-endowed alms-house.

Hitchin, a market town, situated in a fertile valley, is fourteen miles north-west by north from Hertford. It has a considerable trade in malting. Besides the church, there are a free-school and a charity-school.

Berkhamstead is an ancient place, twenty-one miles west by south from Hertford, situated in a deep valley on the south-west side of the Grand Junction Canal. It consists of two principal streets; at the north-east end of one of which, some ruins of an ancient castle still remain which was originally built before the reign of William I. This town was formerly of more importance than at present; it was incorporated by James I. in 1620, but suffered so much from the subsequent civil wars, that it became impoverished, and its rights under the charter were abandoned. It has now a weekly market: there is here a manufacture of fringe lace. The free grammar school was founded in the reign of Henry VIII., for the education of not more than 144 boys. It appears, however, from a suit in Chancery commenced in 1814, that the place of master had become a sinecure, though the revenues had very greatly increased. In 1830, the annual value of the school property was above 600*l.*, but the commissioners for charities report the school as entirely inefficient. There is also a well endowed charity school in this town.

Tring, a market town on the borders of Buckinghamshire, twenty-six miles west of Hertford, and one mile and a quarter west of the Grand Junction Canal, was formerly a considerable place, and gave name to the hundred. It has now a neat appearance, and contains some good houses. The church is an ancient building, with a square tower; in the chancel there are some fine old monuments. There is a charity-school here.

Hemel Hempstead, a small but neat town, eighteen miles west by south of Hertford, is situated on the slope of a hill which descends into the rich valley of the Gade. Its weekly market is one of the largest in the county for corn. The plaiting of straw forms the principal employment of the females; and there are some machine-makers in the town.

This town was incorporated under a bailiff by Henry VIII.

Hatfield, a town between six and seven miles west-south-west of Hertford, formerly belonged to the Bishops of Ely. Near it is the seat of the Marquis of Salisbury, the grounds of which are beautifully laid out. Many valuable pictures ornament this mansion, which is one of finest specimens of Elizabethan architecture in England.

St. Alban's is a borough town, and sends two members to Parliament. The elective franchise has lately been extended a little both to the east and to the west. The town is situated on the north side of the river Ver, twelve miles west-south-west of Hertford. It consists principally of four streets, and contains three parish churches. The British city of Verulam, on the site of which the present town stands, was a walled town of the Romans; some considerable masses of the wall yet remain, which are above twelve feet in thickness. Here, and at London and other places, Boadicea, it is said, massacred 70,000 Romans and their allies. It was also the scene of the martyrdom of Albanus in the year 303. A church was afterwards founded on the spot where he was murdered, and thence the town took the name of St. Alban's. In latter times its vicinity was the scene of two battles between the rival houses of York and Lancaster. The general form of the abbey church is a long cross, having a square and massive tower rising from the intersection of the nave and transepts, and supported on four large semicircular arches. The length of the church is, from the west door to the high altar, 411 feet, and thence to the east end of the lady's chapel, 189 feet; breadth of transepts, 32 feet; extreme length of transepts, 174 feet; breadth of body of church 74¼ feet. The Chapel of the Virgin, at the east end of the church, formerly the most beautiful part of the whole structure, became in so dilapidated a state that its communication with the other part was walled up. It communicated with the Presbytery by three pointed arches, which are now filled with masonry. This chapel was originally built by Hugh de Eversden. The centre part of the abbey is the most ancient; the east and west are of a dissimilar style of architecture, and of a much later date. In the beginning of 1832, a part of the upper battlement, on the south-west side of the abbey, fell upon the roof below, a large portion of which likewise giving way, was precipitated into the interior of the church. A public subscription was immediately opened for repairing the mischief; and the restoration of the whole is now (1835) nearly completed. The gate-house, erected in the reign of Richard II., is a large, heavy, gloomy building, forming the chief entrance into the abbey precincts. The entrances to the prison for the liberty, and to the house of correction, are, respectively, on each side of this gateway. The other churches are — St. Peter's, situated on the north-east of the town, and St. Michael's, on the south-west, at the opposite side of the Ver: in this latter is the monument of Lord Bacon. The town has a grammar-school founded in the reign of Edward VI. It appears by the statutes that admittance to this school is not restricted to the children of the inhabitants of the town, or even to those of the county; but to the number of "one hundred and twenty scholars it is open to all the world*." A small library is attached to the school, in which, among others, there are a few scarce books †. The school-room is the Chapel of the Virgin, already mentioned as having formed the east end of the Abbey Church. The roof is supported by groined arches; but not much of the original architecture remains. It is now, as it stands, a large building, being more than 55 feet in length, 24 feet in breadth, and about 30 feet in height. There is also a blue-coat school here. This borough is governed by a corporation, consisting of a mayor, high steward, recorder, twelve aldermen, and twenty-four assistants, with a town clerk and subordinate officers. The principal manufacture in the town is straw plait, which is likewise extensively carried on among the cottagers in the different villages of Hertfordshire. There are a cotton and a silk mill on the Ver, which bounds the borough on the south.

Watford, a town on the river Colne, is sixteen miles and a half south-west of Hertford. It consists principally of one long street, in the centre of which is the church, and a well-endowed free-school. Here are considerable silk mills, worked by excellent machinery;

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* Carlisle's Description of Endowed Grammar Schools.

† Idem.

one is set in motion by the waters of the Colne. There is likewise a paper mill on the same river.

Rickmansworth, twenty miles south-west by west of Hertford, is situated at the confluence of the Colne, the Gade, and the Chess. It has a large old church, consisting of a nave, aisles, and chancel, and containing many monuments. There are several paper and other mills at this place.

Cheshunt, about a mile west of the river Lea, near the borders of Essex and Middlesex, is seven miles south by east from Hertford. It is supposed to have been a Roman station, but at present it is a place of little importance. The parish of Cheshunt contained the palace of Theobald's, a favourite residence of James I. To this town Richard Cromwell retired when he ceased to be Protector of England, and he died here in 1712 at the age of 80. In the parish of Cheshunt, about a mile and a half from the town, is Waltham Cross, one of the monuments erected by Edward I. at the places where the body of his wife rested on its way to interment. The cross has lately been partially restored by Mr. W. B. Clarke, with great care.

Barnet, generally called Chipping Barnet, stands on high ground, about eleven miles north-north-west of London, and on the great north road. It contains a church built about A.D. 1400, a grammar-school founded by Elizabeth in 1573, and a charity-school for the children of Barnet of both sexes. It has two fairs, one of which, in September, is a great fair for cattle. On Gladsmore Heath, near Barnet, was fought in 1471 the decisive battle between the Yorkists and Lancastrians, commonly called the Battle of Barnet.

Hoddesdon, a market-town between three and four miles south-east of Hertford, consists of two long streets. The church is a neat brick building. In the neighbourhood is a large cotton mill. About two miles and a half north-east of the town is the parish of Stansted Abbot's, in which there is a free grammar-school, founded in 1630. Latin is not now taught in this school; the present system of education is on the plan of the National schools.

The population of the market-towns of Hertfordshire:

Hertford	5247
Ware	4214
Bishop Stortford	3958
Standon	2272
Buntingford*	
Barkway	859
Royston	1272
Baldock	1704
Hitchin	5211
Stevenage	1302
Berkhamstead	2369
Tring	3488
Hemel Hempstead	4759
Hatfield	3593
St. Alban's	4772
Watford (with Cashiobury parish)	5293
Rickmansworth	4574
Chipping Barnet	2369
Hoddesdon	1990

Authorities.

Chauncey's History of Hertfordshire.
Clutterbuck's ditto.
Turner's ditto.
Newcome's History of St. Alban's.
Young's General View of the Agriculture of Hertfordshire.

BUCKINGHAMSHIRE

Is an inland county, bounded on the south by the Thames; on the west by Oxfordshire; on the north by Northamptonshire; on the east by Bedfordshire and Hertfordshire. It is of an irregular form, measuring in its greatest length, from south to north forty-five miles, and from east to west eighteen miles: its circuit is about 138 miles; its area 738 square miles.

The general appearance of the county is varied. On the north the country rises in gentle hills. Commencing at Brentwood forest on the western boundary, there is high ground running in nearly a north-east direction through Quainton, to Whitchurch; thence taking nearly a north direction, it continues to Winslow, and from that town it runs in a very irregular line as far as Fenny Stratford. The rich vale of Aylesbury occupies the centre of the county: it is bounded on the north-west by the elevations just described, and extends on the south-west as far as Thame in Oxfordshire, situated near the boundary of the county; on the south, this vale is bounded by the Chiltern Hills, which run in a direction E.N.E. across the county, entering it near Henley in Oxfordshire, and leaving it at Tring in Hertfordshire. These hills are parts of the great chalk ridge already de-

* Its population is not given separately, it not being a parish. The population given of the different places is that of the respective parishes in which the towns are situated.

scribed (see p. 37); their average breadth is stated to be from fifteen to twenty miles. In a part of the county which runs in a very irregular manner between Hertfordshire and Bedfordshire, is an elevated tract nearly north from Tring. Ivinghoe, situated on this elevation, is the highest part of Bucks, being 904 feet* above the level of the sea.

The Thame and the Chess are the only streams of any consequence which take their rise in this county. The Thames is the boundary between Berkshire and Buckinghamshire, through a winding course of about twenty-eight miles. The Colne, taking a southerly direction towards the Thames, separates the south-eastern part of this county from Middlesex, through a distance of about fourteen miles. The Ouse enters the county from Northamptonshire, about three miles west of Buckingham, after having formed for nearly four miles the boundary between the two counties; it then takes a winding course, traverses the country in a north-easterly direction, and passes into Bedfordshire about two miles from Olney. All these rivers receive several tributaries, most of which abound in fish. The Thame has two sources: one rises near Tring in Hertfordshire, the other near Stukely in the south-east of the county. These meet some miles to the north of Aylesbury, and passing about two miles west of that town, take a west-south-west course, and fall into the Thames at Dorchester. The Chess takes its rise a little to the north of Chesham, and flows in a south-easterly direction to the boundary of the county. The Grand Junction Canal enters this county from Northamptonshire, near Stony Stratford; in its course, it is carried across the river Ouse by an aqueduct three quarters of a mile in length; it passes into Hertfordshire two or three miles south of Ivinghoe. From this point navigable cuts have been made to Wendover and to Aylesbury; and another cut from the canal at Old Stratford communicates with Buckingham, and gives that town likewise the benefit of water-carriage.

The line of the Birmingham and London rail-road, commenced in 1834, enters this county two miles east of Stony Stratford, passes near Fenny Stratford and Leighton Buzzard, and enters Hertfordshire near Little Gaddesden.

* Conybeare and Phillips.

At Dorton, between Aylesbury and the borders of Oxfordshire, there is a fine chalybeate spring, which has lately risen to some celebrity. Its constituents are sulphate of iron, alumina, and lime.

The soil of the Chiltern Hills * is little more than chalk and flint, and is very inferior in fertility to the lower parts of the county; but it has been greatly ameliorated by good cultivation. The vale of Aylesbury is composed of rich loam: strong clay and loam upon gravel characterize the soil of the north part of the county. The principal crops of the Chiltern district are wheat, barley, oats, beans, and sainfoin. In the northern division there is little arable land, the soil being chiefly devoted to pasturage and meadows. The business of the dairy occupies much of the farmer's attention.

Buckinghamshire is divided into eight hundreds, containing 199 parishes, one county-town, and fifteen market towns. In the north are, Buckingham, Newport. In the centre—Ashendon, Cotteslow, Aylesbury. In the south—Desborough, Burnham, Stoke. The county sends three members to Parliament.

Buckingham,' the county town, is situated on a bend of the river Ouse, over which there are three stone bridges, forty-nine miles north-west of London: it is a town of great antiquity. It is also an ancient borough, but not now of much consequence; it sends two members to Parliament. This town is small, and has little in it worthy of remark. The present church, situated on an eminence, was built in 1780. The tower and spire are 150 feet high, and the interior of the church is finished in a handsome style. The town-hall is a large brick-building re-erected in 1783 by the then Marquis of Buckingham. A small almshouse for poor women was established and very poorly endowed by Queen Elizabeth. The whole parish of Buckingham, containing about 5000 acres, is included in the "free corporate borough" chartered by Queen Mary; it is governed by a bailiff and twelve

* Formerly these hills abounded in timber, especially beech, and afforded shelter to numerous banditti. To put these down, and to protect the inhabitants of the neighbouring parts from their depredations, an officer was appointed under the crown, called the Steward of the Chiltern Hundreds. His duties have long since ceased, but the nominal office still remains, and is used for the purpose of enabling a member of parliament to vacate his seat.

capital burgesses. The corporation appoint the master to the free grammar school. The only manufacture is white thread lace, which once employed a very large proportion of the labouring females of this county. The introduction of machinery into the manufacture of lace at Nottingham has much lessened the number of persons engaged in this business at Buckingham. Lace-making, however, still gives employment to many women and girls, who thus obtain a small sum at their own homes at an early age. About three miles from Buckingham is Stowe, the magnificent seat of the Duke of Buckingham. A branch of the Grand Junction canal runs to this town.

Stony Stratford is a market town on the left bank of the Ouse, on the borders of Northamptonshire, with which it has communication by a stone bridge. It is seven miles north-east of Buckingham. The female inhabitants are principally occupied in lace-making; but the chief business of the town arises from the passage of travellers. The town, which is built on the Roman Watling Street, is about a mile in length. It had two parish churches, one of which was burnt down, except the tower, in a destructive fire, which consumed great part of the town, in 1742. The other church was rebuilt in 1776. Near the church is a neat market-house. There are two large Sunday schools and several charitable institutions.

Newport Pagnell is an ancient market town, twelve miles and a half north-east by east of Buckingham, on the banks of the Ouse at its junction with a small stream called the Louvet, which divides the town into two unequal parts. The church which stands on an eminence, was rebuilt in 1828, and is now a handsome edifice. In this town is a very old charitable foundation, called Queen Ann's Hospital, the origin of which may be traced to the eleventh century. There is also a theological institution, entitled the Newport Pagnell Evangelical Institution, for all denominations of Protestants: it was commenced in 1764, and is now supported by voluntary contributions. The town used formerly to be supplied with water from the Ouse by means of an hydraulic machine; but it has now a plentiful supply by springs from all parts. The making of lace forms a principal occupation of the labouring females. About four miles from this place, at Wavendon, on the borders of Bedfordshire, are fuller's earth pits, long celebrated for their superior qualities; only one of these is now occasionally worked in a close shaft.

Olney, on the north bank of the Ouse, the most northern town of the county, fifteen miles and a half north-east of Buckingham, consists of one long street. The church is a spacious building with a handsome tower and spire. Lace-making is the principal business of the inhabitants. About a mile from this town the poet Cowper once resided.

Fenny Stratford, a market town, eleven miles and a half east of Buckingham, stands on the slope of a hill, but is adjacent to marshy land, whence it derives its name. It consists of two streets, one of which is built on the Roman Watling Street. On the east of the town runs the river Louvet, a branch of the Ouse, which abounds in fish. It is crossed by a stone bridge. The chapel was rebuilt and endowed by Dr. Willis, the antiquarian, and his friends. Dr. Willis died in 1760, and was, at his own request, buried in this chapel. The inhabitants of this town derive their chief support from travellers. Lace-making is the only manufacture.

Winslow, six miles south-east by east from Buckingham, is a market town on the road from London to Buckingham. It stands on the brow of a hill and is a neatly built town, consisting principally of three streets running east, west and north. The church is a very large edifice with a square tower at the west end. The principal employment of the inhabitants is lace-making.

Ivinghoe, eighteen miles south-east by east of Buckingham, stands on the declivity of a chalk-hill at a considerable elevation. It is a place of great antiquity; here was a Benedictine nunnery founded in 1160. The town consists of two streets arranged in the form of a T. The church is well built. The principal employment of the inhabitants is the making of lace.

Aylesbury, the town in which the members for the county are nominated, stands on a slight elevation, in a fertile valley, nearly in the centre of the county, fourteen miles and a half south-east by south of Buckingham. A small tributary of the Thame coming from the south passes close to the town and falls into the above-named river about two miles on the north-west. Aylesbury, with the adjacent hundreds, sends two mem-

bers to Parliament. It is a very ancient town, and is the Æglesbury of the Saxons. Originally it was a strong British town, which maintained its independence till the year 571, when it was taken by Cuthwolf, brother to Cealwin, King of the West Saxons. It was a royal manor in the reign of William I., who granted it to William of Aylesbury, under the whimsical tenure of finding straw for the king's bedchamber three times in the year, if he should pass through the town so often; and, likewise, furnishing his table with three green geese in summer, and three eels in winter.

The town is very irregularly built, but is well paved and lighted with gas. Being on rather higher ground than the adjacent country, it was at times ill-supplied with water; but this disadvantage has been removed, and water is now conveyed to the houses of the town by means of machinery worked by the prisoners in the gaol. Though not the county-town, Aylesbury is in fact of more importance than Buckingham. The county gaol is here, and the Quarter Sessions and Lent Assizes are held in this place. The Summer Assizes are held at Buckingham, which privilege Lord Cobham obtained for it by act of Parliament in 1758.

There is one parish church here, which is a large ancient structure built in the form of a cross, with a low tower rising from the intersection of the nave and transepts. Four different bodies of dissenters have likewise places of worship in this town. Here is a free-school, on the foundation of which 120 boys receive an English education, and fifteen are instructed in the classics and mathematics. The school buildings are adjacent to the churchyard. The county hall is handsomely built of brick. A building on the model of the Temple of the Winds at Athens has lately replaced the old town-hall and market-house. An Infirmary for the county has been built here by subscription. Lace-making is carried on to a considerable extent; and there is a silk mill which employs a considerable number of hands. A particular mode of rearing poultry is practised here, and forms the occupation of many of the inhabitants. There is a cut from the Grand Junction Canal to this place.

Wendover, a market town, nineteen miles and a quarter south-east by south of Buckingham, is situated among the Chiltern hills. This town is an ancient borough, which till recently sent two members to Parliament. Wendover is an inconsiderable place, with little trade or manufacture; the chief occupation of the inhabitants is lace-making. Near the town is a large reservoir for the supply of the Grand Junction Canal, to which it is connected by a branch called the Navigable Feeder; this reservoir covers about seventy acres of land.

Chesham is a market-town pleasantly situated in a valley near the river Chess, twenty-five miles and a half nearly south east by south of Buckingham. The church is a large Gothic building. Several adjoining hamlets are included in this parish.

Amersham is situated near a branch of the river Colne, twenty-seven miles south-east by south of Buckingham, in a vale between wooded hills. It is a borough of great antiquity, but was disfranchised under the Reform Act. It consists of one long street, crossed by another of smaller dimensions. The church is situated near the intersection of the streets; it is a handsome brick-building covered with stucco. The town-hall, built of brick in 1682, is raised upon pillars, and is surmounted by a kind of lantern and clock; underneath is the market-place. Here are a grammar, a writing, and a Sunday school, and an almshouse for six poor widows. This town has a cotton and a sacking manufactory. Chair-making and lace-making also employ some of the inhabitants.

Beaconsfield, a market town, thirty-one miles south-south-east of Buckingham, stands on the ridge of chalk-hills in a lofty situation, and is noted for its salubrity. The town consists of four streets, built in the form of a cross. Bulstrode, the seat of the Duke of Portland, is three miles east of this place. The park contains 800 acres.

Great Marlow is a borough and market town on the north bank of the Thames, thirty miles south by east of Buckingham. It sends two members to Parliament. The limits which have this privilege have recently been extended. The town consists of two principal streets in the form of a T, and three smaller ones. The church is a modern and elegant Gothic building, finished in 1835. There is a free-school here, founded in 1624. A wooden bridge was thrown over the Thames in 1798, to replace a very old one, which had

gone to decay: but a new suspension bridge has recently (1835) been completed: its span, from pier to pier, is 75 yards. The principal trade of Marlow consists in coals and timber, meal, and malt. The market, however, has been discontinued for many years, and has been transferred to Wycombe. The manufactures are paper and black silk lace. The Temple Mills, a large establishment for the manufacture of copper, brass, and iron wire, are situated in the neighbourhood. There are also mills for making thimbles, and for pressing oil from rape-seed; and between Marlow and Wycombe there are several paper-mills and corn-mills.

Chipping, or Chepping Wycombe, or High Wycombe, a borough and market town, twenty-seven miles south-south-east from Buckingham, sends two members to Parliament, which privilege has been recently extended to the whole parish. Wycombe is governed by a corporation. The town principally consists of one wide long street, forming part of the high road from London to Oxford; other smaller streets branch out from this, forming altogether a well-built, respectable town. The church is a fine old building of the thirteenth century. It has a tower 108 feet high, much ornamented: but this is of a later date. Here is a grammar-school of very ancient origin, but at present (1834) without scholars: the common council of the town appoint the master. The town-hall, erected in 1757, is a large commodious brick building, supported on thirty-four stone pillars. Chipping Wycombe derives its present prosperity chiefly from the great traffic which is constantly passing through it. The manufacture of paper has been carried on here to a great extent. The manufacturing district is situated on the banks of two streams, one called the Wick river, passing through the town, the other the Rye stream, which rises near the town. These two streams give motion to several corn and paper mills. Some of the inhabitants make lace.

Several antiquities have been found in this neighbourhood. Among these is a tesselated pavement nine feet square, discovered while digging in a meadow in 1724; some Roman coins have likewise been found, which tend to show that this must formerly have been a Roman settlement. Wycombe Abbey, the seat of Lord Carrington, situated in a bottom near the town, is embosomed in trees; the park, which contains about 200 acres, is finely diversified by hill and dale.

Eton is on the north bank of the Thames, thirty-eight miles south-south-east of Buckingham, twenty-two miles west from London, and opposite to Windsor, with which it communicates by a new bridge. The town consists principally of one street, and owes its importance solely to the college, which is a royal establishment, founded and richly endowed by Henry VI. in 1440. The college now consists of a provost, seven fellows, two priests or chaplains, ten lay clerks, ten choristers, two masters, and seventy scholars, with inferior officers and servants. The buildings of the college consist of two quadrangles. The first contains the schools, the chambers in which the seventy foundation boys sleep, and a chapel, with a bronze figure of the founder in the centre of the court. The other consists of the cloisters, containing the library, the hall, and apartments for the provost and fellows of the college. The head and other masters live out of the building; and the boys, not on the foundation, who generally amount to four or five hundred, lodge with the several under-masters, or at houses kept by females called Dames. The library contains some valuable books, and some rare MSS.; but it is not generally accessible. All the boys on the foundation of Eton are, under certain regulations, eligible to King's College, Cambridge, the fellows of which society are altogether elected from the foundation boys of Eton. Any boy is admissible on the foundation of Eton, with some restrictions as to age, &c. Eton also sends two scholars to Merton College, Oxford. These scholarships are of the annual value of between 40*l.* and 50*l.* each. There are likewise three exhibitions at 20*l.* each for seven years at Pembroke College.

This college has also some exhibitions for superannuated scholars.*

The population of the market-towns of Buckinghamshire:—

Buckingham..........	5330
Stoney Stratford........	1619
Newport Pagnell.......	3385.

* Those who wish to study the foundation of Eton College must read the Statutes of Eton College in the Parliamentary Reports, 1818. See also Carlisle's Endowed Schools, and Hakewill's Windsor.

Olney	2344
Fenny Stratford	635
Winslow	1290
Ivinghoe	1648
Aylesbury	5021
Wendover (B. and P.)	2008
Chesham	5388*
Amersham (B. and P.)	2816
Beaconsfield	1763
Colnbrook†	not returned.
Great Marlow (B and P.)	4237
High Wycombe (B.)	3198
Prince Risborough	2122

Authorities.

Malcolm's General View of the Agriculture of the County of Buckinghamshire.

Lipscombe's History and Antiquities of Buckinghamshire.

Willis's History of the Town of Buckingham.

BEDFORDSHIRE

Is an inland county of an irregular shape, ending nearly in a point both on the north and south. It is bounded on the west by Northamptonshire and Buckinghamshire, and on the east, by Huntingdonshire, Cambridgeshire, and Hertfordshire. From north to south it measures thirty-six miles; its greatest breadth from east to west is twenty-two miles; the circuit is about 145 miles, and includes an area of 463 square miles. The county presents in most parts an undulating surface, pleasingly diversified. Some extensive level tracts lie to the west; on the north-west boundary is a range of hills running north-east from Northamptonshire; and the south-east part of the county is traversed by the range of high chalk hills, forming part of the chain which is a continuation of the Chiltern Hills‡ of Buckinghamshire. That part of this range which is within Bedfordshire, forms the Dunstable and Luton Downs. At the base of these hills, and skirting them along their north-west boundary, is an extensive tract of hard land, consisting of a mixture of chalk and clay. A small tract of high land runs north-east from Ampthill to the junction of the Ivel and the Ouse, forming the east boundary of the vale of Bedford. The centre of the county, through which the Ouse flows, is flat.

The principal rivers are the Ouse, the Ivel, the Lea, and the Ouzel. The first enters from Buckinghamshire on the west, near the village of Turvey, and takes a very winding course, first to the north and then to the south, to Bedford, where it becomes navigable for boats; from Bedford flowing to the east, and then to the north, it leaves the county at St. Neott's, on the confines of Huntingdonshire. This river is remarkable for the slowness of its course, and the many windings which it makes in so short a distance, indicating the flatness of the country which it drains. The direct distance from Turvey to St. Neott's is about sixteen miles: along the river it is at least forty. It is subject to sudden inundations, which formerly did great mischief, by laying waste the surrounding country: and much land was in consequence left in an uncultivated state. Precautions, however, have been taken to protect the low lands against flooding, and most of the ground is now inclosed, and under profitable cultivation. This river abounds in fish. The river Ivel rises in the parish of Radwell in Hertfordshire, and takes a north direction to Biggleswade, from which it is navigable for barges: it joins the Ouse at Tempsford, six miles N.N.W. of Biggleswade. Though the Lea has its source near Luton, in this county, it so soon passes into Hertfordshire that it can scarcely be called one of the rivers of Bedfordshire. There are several mineral springs in various parts of the county. These springs are found at Bedford, and a few miles to the north-west, at Clapham; at Milton Ernest, a little more than two miles north of the latter place; and some miles further north at Pertenhall, near a branch of the river Ouse, and on the same branch higher up to the west at Risley; also at Bletsoe and at Odell, both on the Ouse; at Turvey; at Cranfield, situated two or three miles east of the middle of the western boundary, and a little to the south-west of this place; also at Holcutt, and at Barton, a small parish in Flitt Hundred.

There is some rich pasture land extending from the south-east corner, towards the middle of the county, and terminated on the north by some sandy hills. The valleys of the Ivel and the Ouse are a rich alluvial soil. On the north, the soil is generally argillaceous and poor; on the west, the soil is mostly sandy; and on the south calcareous, bordering on the chalk range.

* Includes the population of several adjoining hamlets.

† Situated in four adjacent parishes, and its population is included in these.

‡ See page 37.

The agriculture of this county is moderately good: in some parts, large crops of wheat, barley, and beans are produced. The climate is in general considered pure and healthy.

Some remains of Roman military stations exist in this county, near Dunstable, near Sandy, three miles north-by-west of Biggleswade, and near Leighton Buzzard. There are evident traces of the county having been intersected by the two Roman roads, Watling and Icknield Streets, which crossed each other at Dunstable: the one running north-west into Buckinghamshire, the other north-east into Hertfordshire. A few antiquities have been occasionally discovered.

Bedfordshire is divided into nine hundreds, containing 133 parishes and nine market towns. On the south—Manshead, Flitt, and Clifton, hundreds. In the centre—Redbornstoke, Wixamtree, and Biggleswade, hundreds. On the north—Willey, Barford, and Stodden, hundreds. The county sends two members to Parliament.

Bedford is the county town, and likewise the election town for the county. It is a borough, having the privilege of sending two members to Parliament. The town is situated forty-five miles north-by-west of London, on both sides of the Ouse: the principal part of the town lies on the north bank of the river, which is crossed by a handsome stone bridge, erected in 1813. Bedford is of great antiquity, and is supposed to be the Bedicanford of the Saxon Chronicle. The site of a castle may still be traced, which withstood a siege by King Stephen in 1137; and was subsequently, in the reign of Henry III., dismantled. The town contains five parishes and five churches, three on the north, and two on the south side of the river, besides other places of worship. Several charitable institutions are established here; and there is a grammar school, supported out of the funds of the Bedford Charity*, which has a rental of more than 13,000*l.* per annum. This school has eight exhibitions to the Universities. The county infirmary was built in 1803: the late Mr. Whitbread gave 4000*l.* towards its erection, and endowed it with the same sum. Here is also a county asylum for the reception of lunatics, erected in 1812. The House of Industry, which is a large and handsome edifice, was built in 1796: a manufacture of flannel is carried on in it. Bedford has a considerable trade in corn, coals, timber, and iron, by means of water-carriage. The principal manufacture is lace-making.

Biggleswade, a market town on the great road from London to York, ten miles east-south-east of Bedford, and forty-one miles north of London, on the river Ivel, which is navigable to this place. The church is a handsome structure, said to have been built in the year 1230. Here is one of the greatest markets in England for grain.

Potton, a market town on the east side, near the borders of Cambridgeshire, is eleven miles east of Bedford. It is pleasantly situated, and mostly of modern erection, in consequence of a destructive fire which occurred in 1785. The market is well supplied with all kinds of grain.

At Stevington, a village five and a half miles north-west of Bedford, large quantities of matting are manufactured with the rushes of the Ouse, and sent to London.

Woburn is a well-built market town on the borders of Buckinghamshire, twelve miles south-west by south from Bedford. The church, erected by the last Abbot of Woburn, exhibits a curious specimen of bad taste. The tower stands distinct about six yards from the body of the church. Both the church and tower have lately undergone alterations. There are a free-school and an alms-house, both founded by the Russel family. Straw platting and lace-making form the chief employment of the working class. About a mile from the town is Woburn Abbey, the mansion of the Duke of Bedford.

Leighton Buzzard, a market town, at the south-western extremity of the county, near the river Ouse, on the borders of Buckinghamshire, is eighteen miles south south-west of Bedford. It is a thriving town, with considerable traffic by means of the Grand Junction Canal, which passes within a furlong of it, on the west side. A short

* The Bedford Charity consists of a donation for charitable purposes, made by Sir William Harpur, a native of the place, and Lord Mayor of London in 1561. This donation was a piece of land, situated on the north side of Holborn, and then yielding a rent of 40*l.* per annum. As London became more populous, the value of this land increased, till it reached the present rental. Bedford Row is part of the property. Besides the support of the grammar and other schools, alms-houses are supported, children are apprenticed to different trades, and young females, natives of the town, are portioned.

distance from the town are vestiges of a Roman camp. The church is supposed to have been erected in the fourteenth century; coeval with this is the cross, a handsome pentangular building, situated in an open area, near the market-house.

Dunstable lies at the foot of the Chiltern Hills, on the east side of the range, eighteen miles south by west of Bedford. It is supposed that Dunstable was the Roman station of Forum Dianæ. The remains of a priory, founded by Henry I., form part of the present parish church. The inhabitants of the town are platters of straw to a great extent: children are taught to do this at a very early age. At Toternhoe, about two miles west-north-west of Dunstable are the remains of ancient fortifications, consisting of a lofty circular mound with a slight vallum around its base; a little farther on there is a larger one of an irregular form. At Maiden Bower, about a mile from Dunstable, there is a circular earth-work consisting of a single vallum and ditch, probably the remains of a British station.

Luton, a market town, nineteen miles south by east from Bedford, is situated near the source of the river Lea, on the eastern side of the chalk hills. It is an irregularly-built town, with three streets which branch off from the market-house somewhat in the form of a Y. The church is an old building. The inhabitants are principally engaged in the manufacture of straw hats.

Ampthill, an ancient market town, eight miles south by west of Bedford: noted for its establishment for breeding rabbits for the London markets. Near the middle of the town there is an obelisk of Portland stone.

Population of the market towns of Bedfordshire:—

Bedford	6959
Biggleswade	3226
Potton	1768
Woburn	1827
Leighton Buzzard	3330
Dunstable	2117
Luton	3961
Toddington	1926
Ampthill	1688
Shefford	763
Harrold	995

Authorities.

Collections for the History of Bedfordshire; Stone's General View of the Agriculture of the County.

HUNTINGDONSHIRE

Is a small inland county, bounded on the north-east, east, and south by Cambridgeshire: on the south-west by Bedfordshire; and on the north and north-west by Northamptonshire. It is of an irregular form, measuring from north to south thirty miles, and from east to west twenty-three miles; its surface is 372 square miles. In ancient times, the whole upland part of Huntingdonshire was a thick forest, appropriated to the pleasures of the chase, whence the county derives its name. In the reign of Henry II. part of the land was cleared, and Henry III. and Edward I. yet farther divested it of its trees. Some parts, however, still retain the appearance of ancient forests, and upwards of one-third of these high lands are uninclosed. On the north-east of the county there are about 44,000 acres of fen-land, adjoining the fens of Cambridgeshire. Nearly 5000 acres bordering on the most fenny parts, provincially known as "skirty land," is considered good pasture ground: but there is little more than 8000 or 10,000 acres of the fens under cultivation.

The great level of the fens, or, as it is more usually called, the Bedford Level,* includes nearly 400,000 acres, lying in the several counties of Huntingdonshire, Cambridgeshire, Northamptonshire, Lincolnshire, Norfolk, and Suffolk. This is a tract of land which has occasioned much interesting inquiry and speculation. It appears to have been many ages ago dry and cultivated ground, but from some sudden change, and subsequently through injudicious management, which, by embanking, prevented the natural out-falls of the water from the uplands; and, perhaps, also from the invasions of the sea on the coasts of the Wash, it became reduced to the state of a morass, in which the stagnant and putrid waters filled the air with noxious vapours, and destroyed the health of the inhabitants, while it became impassable even to boats, by reason of the sedge reeds and slime with which it was covered. That this was once dry land, and at a much lower level than the present surface, is evident, from the fact, that trees have been found buried

* The Earl of Bedford formed a company for the purpose of draining the fens in the time of Charles I., and he being the projector and principal proprietor, his name was given to the level.

deep in great numbers in different parts of the fens; and when digging channels in the moors, their roots have been found standing in the firm earth below the moor: numerous other circumstances have likewise been brought forward to confirm this statement. Attention was first turned to the subject of draining the fens in 1436; but though attempted, both at this time and subsequently, nothing efficient was done till the time of Charles I., when in 1634, a chartered company was formed for the purpose, and it was partially drained in three years at the cost of 100,000*l*. What was done, however, was very incomplete; the embankments were not sufficiently strong, and the whole tract again became a morass. After many vexatious delays, in consequence of the disturbed state of the country, the draining was again attempted in 1649. The sum of 300,000*l*. was then expended in the undertaking, and with more success than attended the last effort. A new charter was granted by Charles II. in 1664, and a company was incorporated, under the control and management of which, the draining of the level has been maintained and improved to the present day. Notwithstanding, however, the various projects, and the vast expense incurred to complete the drainage of the fens, the work is yet imperfect: and in many places, the farmer is still liable to have his crops carried away by sudden inundations. The peculiar situation of the level, which renders it the receiver of the waters of nine counties, makes it necessary to provide very large outlets to the sea, sufficient to carry off the descending waters.

The expense of draining and preserving these lands is very great; the drainage was originally conducted on bad principles, and much power was wasted in resisting the return of the water. Great improvement has, however, taken place within the last few years in the management of these fens, and steam-engines are now partially used for the purpose of raising the waters into the cuts by which the water is carried off*.

Bordering on the rivers, in this county, there are from 1200 to 1400 acres of rich meadow land, extremely productive; but the hay crop is frequently injured or carried away by river floods. The middle and western parts present a pleasing surface of fertile arable land, intermixed with wood; but the county is now on the whole thin of timber, a circumstance "attributed to the great demand for it in the fens."

No large rivers rise in this county; the Ouse runs through it, and the Nen flows along its borders. The Ouse enters from Bedfordshire at St. Neott's; whence it takes nearly a northerly direction to Huntingdon, and then follows an easterly course to St. Ives; finally winding to the north, it flows along the boundary of the county to Earith, where it enters Cambridgeshire. It is navigable throughout its whole course in Huntingdonshire. The river Nen rises in Northamptonshire; from Elton, it runs along the northern boundary of Huntingdonshire to Peterborough, where it separates Northamptonshire from Cambridgeshire.

There are three meres or large pools of water in this county, Whittlesea, Ramsay, and Ugg Meres: they all lie in the north-east part of the county; of these, the first, which is the largest, is two miles and a quarter long, and one mile and a quarter broad. Trundle Mere, joining it on the west, and forming part of the whole, is little more than half a mile long, and a quarter of a mile wide. These lakes afford excellent fishing; and in fine weather many pleasure-boats may be seen on them.

The general nature of the soil is either a strong deep clay with loam, or a deep gravelly soil with loam. The climate is considered mild, and more salubrious than might be expected where there is so much fen-land. The most unhealthy parts are in the neighbourhood of the low marshy grounds near Huntingdon, Ramsay, and Yaxley in the neighbourhood of Whittlesea Mere. The usual produce of this county is wheat, barley, oats, and hemp; rape in the fens, and turnips on some of the drier soils; hops are occasionally grown, and mustard seed in considerable quantities. There are scarcely any manufactures carried on in this county, except wool stapling and spinning yarn; the latter is the occupation of the women and children in the winter season, when they cannot attend to agricultural employments.

Huntingdonshire is divided into four hundreds, containing one county town, six market towns, and 107 parishes. As regards its civil administration, this

* A more particular account is given of the draining of part of the fens in the description of the county of Cambridge.

county is so far united to Cambridgeshire, that only one high sheriff is appointed for both counties. Each of them has a lord lieutenant. Toseland Hundred is on the south; Leightonstone on the west; Norman Cross on the north; and Hurstingstone on the east. The county sends two members to Parliament.

Huntingdon, the county town, stands on the left bank of the Ouse, rather to the south-east of the centre of the county, fifty-eight miles and a half north of London. It sends two members to Parliament, in conjunction with the adjoining parish of Godmanchester, which is about a furlong to the south of Huntingdon, and separated from it by the river.

The Roman settlement of Durolipons was situated about here, which was probably a corruption of Dur-osi-ponte, or bridge over the river Ouse. Antiquarians are at variance whether the site of the ancient town was at Huntingdon or Godmanchester; the short distance between the two places renders it perhaps difficult to decide. Many Roman coins have been ploughed up near Godmanchester. The Assizes are held at Huntingdon: the town-hall is a large modern building on the south side of the market-place. The town consists principally of one neat street, extending from the banks of the Ouse nearly a mile towards the north-west; several streets branch off on each side. It has lately been lighted with gas. On the north stands All Saints' church, built in the time of Henry VII.; there was another church much more ancient than this, which was rebuilt in the beginning of the seventeenth century. This town was the birth-place of Oliver Cromwell, who received his education at the free grammar-school here. There is also a grammar-school at Godmanchester. One of Oliver Cromwell's ancestors, Sir Henry Cromwell, who died in 1592, has handed his name down to posterity, as believing in and encouraging the worst and grossest superstition of his time. He bequeathed a sum of money, in order that an annual sermon might be preached against witchcraft, by a Doctor or Bachelor of Divinity from Queen's College, Cambridge; and this yearly tribute to the ignorance of a former age was continued long after the penal statutes against witchcraft were repealed.*

A small village, twelve miles north-west of Buckingham, called Denton, now containing only eighty-five inhabitants, was the birth-place of Sir Robert Cotton, the celebrated antiquary, who lived at the latter end of the sixteenth century. To him we are indebted for the preservation of important manuscripts and records which would otherwise, most probably, have been destroyed. This valuable collection, under the name of the Cottonian library, was deposited in the British Museum in the year 1753.

The following are the most populous places in Huntingdon.

St. Ives, five miles east of Huntingdon, is near the border of Cambridgeshire: the markets and fairs held here are some of the largest in the kingdom.

Ramsay, towards the N.N.E. part of the county, eight miles and a half from Huntingdon. A rich abbey, founded by Duke Ailwin, in the reign of King Edgar, formerly stood here in the midst of a bog. Scarcely any vestiges are left of it, except a part of the old gate-house, and a statue of its founder, reckoned one of the most ancient pieces of English sculpture extant.

St. Neott's, seven miles south-south-west of Huntingdon, on the southern boundary of the county, is a well built town: the church is a handsome edifice, with a beautiful steeple. There is a very large paper mill worked by patent machinery.

Kimbolton, nine miles west by south of Huntingdon, has a small manufactory of lace, and a grammar-school. On the south-west of the town is the castle, the magnificent seat of the Duke of Manchester. This castle was the residence of Catherine of Aragon after her divorce from Henry VIII.

Yaxley, thirteen miles north of Huntingdon, near Whittlesea mere, stands on a fine gravelly eminence. The town is tolerably well-built, and contains a handsome Gothic church.

Stilton, eleven miles and a half from Huntingdon, on the road to Stamford. This village gives its name to the cheese, which is now made chiefly in Leicestershire.

Population of the market-towns of Huntingdonshire:—

Huntingdon	3267
Godmanchester	2146
Holywell	951
* Warboys	1550
Ramsey	3006

* Noble on Witchcraft.

St. Ives	3314
Kimbolton	1584
St. Neott's	2617
* Yaxley	1140

Authorities.

Stone's General View of the Agriculture of the County.

Dugdale's History of Embanking and Draining various Fens, Marshes, &c.

Extent of the Bedford Level.

An Essay on Draining the Bedford Level.

Sir Jonas Moore's History of the Bedford Level.

CAMBRIDGESHIRE

Is bounded on the west by Huntingdonshire: on the north-west and north by Northamptonshire and Lincolnshire: on the east by Norfolk and Suffolk: on the south and south-west by Essex, Hertfordshire, and Bedfordshire. Its extreme length, from north to south, is fifty miles; its greatest breadth, from east to west, is thirty miles; and its circuit, about 130 miles. It contains an area of 857 square miles. On the south the surface is in most parts elevated, and occasionally intersected by commons and uninclosed land, which afford pasturage to numerous flocks of sheep. On the south-east is a continuation of the chalk hills, which enter from Essex, running first on the southern boundary of the county from Royston to Linton, and thence continuing into the county in a range of small elevation which runs nearly four miles south-east of Cambridge, and on to Newmarket. This range, which is called the Gog Magog hills, is bleak, and almost entirely without trees. The most level tract of chalk in England is to the north-east and east of Cambridge; the flatness of the adjacent country makes the Gog Magog hills appear of greater elevation than they really are. Within the last thirty years, many inclosures have been made on these chalk downs. That part of the county which lies to the north of the river Ouse is called the Isle of Ely, and possesses a jurisdiction of its own, and a judge, entitled the Chief Justice of the Isle of Ely. This district consists of low marshy ground, forming part of the great Bedford Level already described; and which, but for the labour of man, would, during great part of the year, be mostly under water. Much skill has, however, been shown, and much expense incurred, in forming numerous drains and embankments, by which a great part is reclaimed, which is a most fertile soil, extremely well-adapted for grain-corn. In some of these marshes, the crops are often destroyed by inundations *. Numerous artificial streams are made in the fenny districts for the purpose of draining them: some of these are sufficiently large to be navigable. The two distinguished as the Old and New Bedford rivers are both navigable for upwards of twenty miles, and extend, in nearly parallel directions, and at a distance of less than a mile from each other, from Earith to Denver, in Norfolk.

The principal rivers are the Great Ouse, the Cam, and the Nen. The Ouse flows into the county from Huntingdonshire, at Earith, a few miles north of St. Ives: thence taking a winding course, first to the east-by-south, and then nearly north, it passes near Ely, nine miles north-east of which city it leaves the county, and enters Norfolk. The Cam or Granta has two sources, the one in Hertfordshire, the other in Essex; thence they flow into Cambridgeshire and join a little above Cambridge, through which town the united stream runs, and continues in a north-north-easterly course, till it meets the Ouse, about three miles and a half south of Ely.

The Nen rises in Northamptonshire; and at Peterborough, taking a winding north-easterly direction, it forms nearly the boundary-line between this county and Northamptonshire and Lincolnshire.

The streams now united under the name of the Old Nen are parts of the original branchings of the main stream of the river Nen, which divided into various branches a little below Peterborough: these divisions went into different parts of the Fens, to the north and south of the present straight course of the river between Peterborough and Guyhirn, which is entirely artificial. The river at Wisbech was

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* The weekly markets are now discontinued here.

* Among the expedients for draining the marshes, where the regular and common means have failed, is the erection of windmills, after the Dutch fashion, which raise the water into receptacles elevated enough to carry it in its proper channel. Steam-engines are now likewise used. The elevated spots on which the towns and villages are built in this part of the county formerly appeared like islands rising from low and watery marshes.

called the Wis or Wisbech, and was not known as the Nen. Indeed it is very difficult to give any clear description of these rivers: the number of navigable cuts branching off in every direction cannot be well distinguished from each other without a map on a large scale, and the original channels of the rivers can now scarcely be defined. By an act passed in 1754, navigable cuts were made to Peterborough and Outwell from Wisbech, and from Outwell the Old Nen was made navigable by the towns of Upwell and March, to Flood's Ferry, and thence to Ramsey High Load, in Huntingdonshire. A new tidal channel for the discharge of the waters of the Nen has recently been made along the west coast of the Sutton Wash æstuary. It commences at Kinderley's Cut, near Buckworth Sluice, about six miles north of Wisbech, and extends north-by-east to Crab Hole, a distance of six miles and a half: thence the river has shaped for itself a natural channel of about a mile and a half in length into the Wash. The excavation of this work was commenced in August, 1827, and was completed, as far as it was performed by manual labour, in June, 1830, when the old channel was closed. The force of the current of water through the new channel was so great as to deepen its bed ten or twelve feet: its sides were then secured by a thick coating of stones. The whole course of this channel is through quicksands of the lightest and least cohesive nature found on any part of the coast. The width of the bottom of the river at Kinderley's Cut is 140 feet; and at Skate's Corner, about three miles before it reaches Crab Hole, it is 200 feet. The depth from the surface of the adjacent land to the bed of the river is about 24 feet throughout; the width at the top varies from 200 to 300 feet. A spring tide rises about 22 feet at the lower end nearest the sea, and 18 feet at the junction with Kinderley's Cut. The completion of this work is productive of many advantages. The navigation of the old channel was tedious and dangerous; capable only of affording a passage at spring tides and with a favourable wind to vessels drawing about six feet of water, and carrying about 60 tons. There is now a safe and daily communication between Wisbech and the sea at all variations of the tides, and in all weather, for vessels of the above burden, and in spring tides for ships of much larger construction. Wisbech is the great emporium for a large part of the counties of Cambridge, Norfolk, Lincolnshire, and Northamptonshire.

In closing up the old channel an embankment of one mile and three-quarters has been made across the sands, and a bridge has been thrown over the new channel, between seven and eight miles from Wisbech. Thus a new line of road is formed between Norfolk and Lincolnshire, in place of the former dangerous ford through a tidal æstuary, or the very circuitous route through Wisbech. Nearly 1500 acres of marsh land have been embanked from the sea, and are now almost entirely under cultivation: about 6000 acres more are rapidly becoming fit for inclosure. But the greatest benefit which results from this undertaking is the more efficient drainage of a great part of the level. In consequence of the more rapid discharge of the upland floods through the Nen outfall, the danger of inundation by a breach of bank is incalculably diminished to the fens on each side of the Nen, between Peterborough and Wisbech. The water of the new channel ebbs out nearly ten feet lower than it formerly did in the old channel, immediately opposite to the south Holland and the north level sluices, which are the outlets for the waters of about 100,000 acres of fen-lands. A perfect natural drainage is in consequence afforded, without the aid of any wind or steam-engines, for the whole tract of fens lying between the Nen and Welland, and hitherto imperfectly drained. A new sluice has been constructed for the utterance of the waters of the north level (containing 48,000 acres) into the Nen outfall, near Kinderley's Cut: this is laid eight feet deeper than the former sluice which communicated with the old river channel. The width of the waterway of the old sluice was seventeen feet, that of the new sluice is thirty-six feet. A new main drain has been formed, leading to this sluice from Clow's Cross, at which point all the waters of the north level are collected. This point is about seven or eight miles W. by N. of Wisbech. The length of this new drain is eight miles and a quarter: the length of the old Shire drain, for which it is substituted, and which commenced and terminated nearly at the same points, was about twelve miles. The new

drain is eight feet deeper than the old one, and its capacity, as compared by corresponding sections, more than six times as great. Its bed is an inclined plane, having a declivity from Clow's Cross of four inches per mile. From Clow's Cross the new drainage diverges by two different lines, called respectively the New South Eau and the New Wryde. These possess as great a superiority over the old drains as the main drain has over the old Shire drain. New drains connected with these works for other districts of the level are about to be made. South Holland drain, which commences at Cowbit Wash on the Welland, below Crowland in Lincolnshire, is now made to communicate with the new channel about half a mile above the bridge. It is proposed to make all the drains navigable, by which means a much readier transit for corn, coals, and other articles of merchandise, will be afforded than any hitherto possessed by the country through which they pass. The expense of executing the Nen outfall has been about 200,000*l.*; the drainage of the north level has cost about 150,000*l.* The Duke of Bedford has been the great patron and promoter of both these undertakings*.

Cambridgeshire is mostly a grazing and dairy country; one-third of the land is arable, and the remainder is divided between pasture and waste lands. The valley through which the Cam flows is almost wholly occupied by pasture and meadow grounds. The butter produced in this county is well-known for its good quality. The soil of the county is various. The rich marshes in the vicinity of Wisbech are a mixture of sand and clay. In the fens, the soil is a strong black earth on a subsoil of gravel, very favourable to the culture of oats and cole-seed. The uplands are chalk, gravel loam, or tender clay. There is very little wood in this county, though many parts of it are well adapted to the elm, chestnut, willows, &c. The prevailing crops on the south and south-west are wheat, barley, and oats; on the south-east the land is mostly devoted to the pasturage of sheep.

Cambridgeshire is divided into eighteen hundreds, containing 169 parishes, one city, and nine market towns. On the south are—Arningford, Thriplow, Whittlesford, Wetherley, and Chilford, hundreds. Between these and the centre Longstow, Chesterton, Flendish, Staine, Radfield, and Cheveley, hundreds. In the centre from west to east Papworth, Northstow, and Staploe, hundreds. In the Isle of Ely—Ely, North Witchford, South Witchford, and Wisbeach hundreds. The county sends three members to Parliament.

Cambridge, the capital of the county, is situated on the river Cam, forty-seven miles north by east of London. This town is very ancient, and the Roman station Granta was situated here, or rather, perhaps, at the neighbouring village of Grantchester.

The town of Cambridge is irregularly built: it stands chiefly on the east side of the river, over which there are eight bridges, six of which are of stone.

The exact date of the University of Cambridge has been a subject of controversy. It is said, that Sigebert, king of the East Angles, was the founder of this seat of learning in the year 630: and that it was restored or improved by Edward the Elder: from which time, this University and that of Oxford, have been the only establishments of the kind in England. The chief buildings in the University of Cambridge are, thirteen colleges, four halls, the schools, the public library, the senate house, the Pitt press recently built, and the observatory, about a mile from the town, erected in 1822. The schools, some of which were built in 1443, surround a small court. The public library occupies the whole quadrangle of the apartments over the schools, and of late years has been much improved, both as to the books and the management. The senate-house, in which the public business of the University is transacted, was erected in 1722: it is a substantial building of Portland stone, and the interior is handsomely fitted up with wainscoting. The University has a small botanic garden, a printing press, and a collection of pictures, books, and engravings, left by Lord Fitzwilliam in 1816, together with the interest of 100,000*l.* South Sea annuities, for the erection of a museum for their reception.

1. St. Peter's or Peter House, founded in 1284, by Hugo de Balsham, Bishop of Ely, consists of two small courts. In the first or outer court, on the north side, is a handsome stone building, containing many excellent rooms; the library is on the south, and the chapel

* Communication from Tycho Wing, Esq., through James Loch, Esq., M.P.

in the centre. The second or inner court is divided from the first by a cloister and gallery; this court is the largest, being about 144 feet by 84.

2. Clare Hall, founded in 1326; the original building was destroyed by fire about sixteen years after its erection, when it was replaced. The present buildings consist of one large quadrangle, the principal front of which faces the river, and the whole is built of Ketton stone. The present chapel, which in the interior is very beautiful, was added in 1763.

3. Pembroke Hall was founded in 1343. It consists of two courts. The library, which is a handsome room, occupies nearly the whole of the north side of the inner court. The chapel was built from a design of Sir Christopher Wren's, and is an elegant, well proportioned building. It is about 54 feet long, 24 feet broad, and more than 30 feet high.

4. Corpus Christi, formerly called Benet, or Benedict College, founded in 1356 by two religious societies of Cambridge. One of its libraries contains some very curious Saxon and Old English manuscripts, presented by Archbishop Parker in the reign of Elizabeth. This college was much enlarged and improved about 1820, at an expense of more than 80,000*l*.

5. Trinity Hall was founded in 1350, by W. Bateman, bishop of Norwich. It is situated on the banks of the river, between Clare Hall and Trinity College, and presents a tolerable appearance, being faced with stone both within and without. The chapel is small but neat: the hall is a handsome room, with a gallery for music at the north end.

6. Gonville and Caius College, originally founded in 1348, by Edmund Gonville, rector of Torrington, renewed and completed by the celebrated Dr. Caius or Cay, in 1558. It has a small but handsome chapel: its hall is 39 feet long and 21 feet broad.

7. King's College was founded by Henry VI., in 1441; but the building was not completed till the reign of Henry VIII. It then consisted of one small court, to the south of which is the chapel, a most beautiful piece of English architecture; the whole of the interior is highly ornamental, and in most excellent taste; the inner roof is constructed of stone. The exterior dimensions of this chapel are 316 feet in length; 84 feet in breadth; and 90 feet in height to the top of the battlements; the corner towers are rather more than 146 feet high. The old court, which is situated on the north side of the chapel, but not connected with it, is built of stone, and is only about 120 feet long and 90 feet broad: it is to be pulled down in order to make room for the new public library. In 1724, another edifice was erected belonging to this college, called the New Building, the whole length of which is 236 feet. It is built of Portland stone, and though a good substantial building, does not harmonize at all with the architecture of the beautiful chapel near which it stands. Recently, very extensive additions have been made to this college, in better taste.

8. Queen's College, founded by Margaret of Anjou, in 1446, consists of two courts, besides some buildings near the gardens. The principal court is 96 feet long and 84 feet broad. The second court is surrounded by a cloister, about 330 feet in circuit. The chapel is a neat building, 54 feet long and 21 broad.

9. Catherine Hall, founded by Robert Woodlark, Chancellor of the University, in 1475. The principal entrance to this college is on the west, through an archway or portico, which leads into a court about 180 feet long and 120 feet broad. The chapel, on the north side of the court, is a good brick building, and, including the ante-chapel, is 75 feet long, 30 feet broad, and 36 feet high.

10. Jesus College, originally a monastery, was converted into a college by licence from King Henry VII. in 1496. The entrance is by a gateway: the front facing the south is about 180 feet in length. The principal court is built on three sides, and is about 141 feet long and 120 feet broad. On the west side it is open to the fields, having a dwarf wall and iron palisades. The chapel retains its conventual form, with cross aisles, and a large square tower rising from their intersection with the nave. The chancel is the only part which is now used for divine service.

11. Christ's College was founded by Margaret, mother of Henry VII., in 1505. It consists of one quadrangle, 130 feet long and 120 feet broad, a stone building about 150 feet in length, and some new chambers. The chapel has a marble floor, and is about 84 feet long, 27 feet broad, and 40 feet high.

The hall is a handsome room, 45 feet long, 27 feet broad, and 30 feet high.

12. St. John's College, founded by the executors under the will of Margaret, mother of Henry VII., consists of three courts, the second of which is of considerable dimensions, being 270 by 240 feet. The first court is entered by a large gateway, with four towers, built of stone and brick. On the north side of this court is the chapel, on the west the hall. The chapel, with the ante-chapel, is 120 feet long and 27 feet broad. The hall is about 60 feet long and 30 feet broad. On the north side of the third court is the library, a spacious room, which contains many valuable old books. On the opposite side of the river, which is here crossed by a stone bridge, is a handsome court, newly erected by Rickman.

13. Magdalene College, founded in 1542 by Thomas Baron Audley, consists of two small courts, the largest being only 111 feet by 78: on the north side of this is the chapel, a neat but small building. In the second court is the Pepysian library, which contains a rare collection of MSS.: among these are collections of old English and Scotch poetry: the former contains 2000 English ballads. This library was bequeathed to the college by Samuel Pepys. This is the only college on the west side of the river.

14. Trinity College, founded by Henry VIII., in 1546, now contains three courts or quadrangles. The east court or quadrangle consists of various parts, dissimilar in elevation and architecture. It is of an irregular form, being 344 feet in length on the west side, 325 feet on the east, 287 feet on the south, and 256 feet on the north. It is entered by a handsome gateway. The chapel, hall, and master's lodge are in this court. The chapel is 204 feet in length, including the ante-chapel, more than 33 feet broad, and more than 43 feet high. The altar-piece is by West. In the ante-chapel is a statue of Newton, by Roubilliac. The master's lodge is a good substantial house; and the hall, which is of large dimensions, is on the whole in a good style. The architecture of the western quadrangle is in what is commonly termed the Roman style. The expense of building it was principally defrayed by Dr. Thomas Nevill, and hence it is usually called Nevill's court. It has a spacious piazza on three of its sides, over one of which is the library, and over the other two, apartments for the students and fellows. The library was built subsequently to the other parts by Wren, and the money was chiefly raised by the exertions of Isaac Barrow, then master of the college. It is 200 feet long, 40 feet broad, and 38 feet high; the entrance is by a flight of steps of black marble. The collection of books, though considerable, has not gone on improving as might have been expected.

15. Emmanuel College, founded in 1584, was designed by its endower for students in theology, and it was for a long time considered "the nursery of the Puritans." It was built on the site and partly out of the materials of an old monastery. The principal part of this college consists of a well-built quadrangle of stone. On the east is a cloister with thirteen arches; over which there is a picture-gallery. The entrance to the chapel is in the middle of the cloister. The chapel is 84 feet long, 30 feet broad, and 27 feet high, with a marble floor. The hall is considered one of the handsomest in the University.

16. Sidney Sussex College was founded in 1598, by Frances, Countess of Sussex. It consists of two courts, built of brick. The chapel is a handsome building, of modern erection. It is 57 feet long and 24 feet broad. The hall is a fine room, 60 feet long, and 27 feet broad.

17. Downing College is of modern origin: it was endowed under the will of Sir George Downing, who died in 1749, and incorporated by charter in 1800. Its erection was begun in the year 1807.

The resident members of the University were returned in the official report of 1811 as 814; in the census of 1821 and 1831 they are included in the general population of the borough. In the Cambridge University Calendar for 1833 the number of the members of the Senate is given at 2319, and members on the Boards*, 5344: in 1825 these numbers were 1761 and 4700.

The University sends two members to Parliament. The University is composed of a chancellor, masters, and scholars, and is incorporated as a society for the study of the liberal arts and

* That is, those who are either students or graduates, who still pay their annual subscriptions.

sciences. Each college or hall is a distinct lay body corporate, bound by its own statutes, and also under the control of the general laws of the university. The government of the university is administered by a chancellor, high steward, vice-chancellor, commissary, assessor, proctors, taxors, moderators, scrutators, and proprectors, &c. The chancellor is usually a nobleman, and may be elected every three years. The high steward is chosen by the senate, and holds his office by patent from the university. The other officers are chosen annually. Besides these public functionaries the university has two librarians, a public orator, registrar, and inferior officers. The number of professors is twenty-three.

The borough of Cambridge contains fourteen parish churches, besides chapels and meeting-houses of dissenters. Some of these churches are of very ancient date. The church of St. Sepulchre is supposed to have been erected in the reign of Henry I., and to owe its origin to the Knights Templars; it has a round tower like the Temple church in London, and is altogether a singular specimen of early architecture. The other buildings worthy of notice are, 1st, The Shire Hall, in the market-place. 2d. Addenbrooke's Hospital, which has been much enlarged and improved. 3d. A new county gaol on the west side of the river. A ruined square tower, near the modern gaol, is probably of Norman origin; and adjoining it is an artificial mound, resembling Silbury Hill on the Bath road, but of smaller dimensions. The ditch of an old entrenchment around it is still in good preservation. A stone conduit in front of the Shire Hall was built in 1614, by Thomas Hobson, a carrier between London and Cambridge, whose memory has been preserved by Milton. Water is conveyed to it from a brook, about three miles from the town. This town has no manufacture of any importance; its trade is chiefly in corn. A large part of the tradesmen depend on the members of the University for their profits. The borough of Cambridge sends two members to parliament.

Newmarket, a market town, twelve miles east-by-north of Cambridge, is chiefly in the county of Suffolk. It is well built and contains some good houses; the race-course, for which Newmarket is celebrated, is on the south side of the town and in Cambridgeshire. The town is on a gentle declivity, and consists chiefly of one long wide street. Earlier than the time of James I., a race-ground was established here. The races are held several times in each year. There are various remains in this county of ditches or dykes, which once extended from the woods on the eastern boundary to the fens: they are supposed to have been made for purposes of defence. One, in the best state of preservation, occurs between Cambridge and Newmarket, about Wood Ditton, where it consists of a deep ditch and an elevated ridge, one slope of which is more than fifty feet at the base, and the other nearly thirty feet: the whole width of the works is about 100 feet.

Soham, a market-town about fifteen miles north-east of Cambridge, is of very ancient origin. According to Leland, it was the seat of the East Anglian bishops. Some remains of ancient buildings are still visible. The town, which is large and irregularly built, has a spacious church, in the form of a cross, with a tower at the west end, the upper part of which is ornamented with tesselated work, composed of flints. Here are a large charity school and four almshouses. The chief employment of the town is the business of the dairy. Excellent cheese and butter are made here.

Ely is an ancient city, situated on the left bank of the Ouse, in the Isle of Ely, sixteen miles N.N.E. of Cambridge. It consists of one principal and some smaller streets, and is the only city in England not represented in Parliament. The only interest it has is derived from its cathedral, which is a venerable building, exhibiting the architecture of many ages, with the circular and pointed styles curiously intermixed. Its exterior length is 535 feet, and the breadth 190 feet; a Saxon tower on the west side was 270 feet in height with the spire, which latter is now taken down. The whole length of the interior from west to east is 517 feet; the length of the transepts from north to south is 178 feet; the nave is 203 feet long, and, with the side aisles, 73 feet wide. The whole height, from the floor to the centre of the lantern of the tower, at the intersection of the nave and transepts, is 142 feet. St. Mary's Chapel, now Trinity Church, joins the south aisle on the west: this church is 100 feet long, 46 feet wide,

and 60 feet high. The cloisters and other buildings belonging to the ancient monastery have been long since demolished. Ely was constituted a bishopric in 1109. Here is a free-school, founded by Henry VIII. in 1541.

Wisbech, a market town, situated on the borders of Norfolk, in the Isle of Ely, thirty-two miles north of Cambridge. Wisbech owes much of its present prosperity to the improved state of the fens by which it is surrounded. The drainage of these fens has very much increased the produce of the land, while the navigation gives the town the advantage of a considerable trade in coals, corn, timber, and wine. The annual shipments of corn are very large. A canal joins the river to the Old Nen at Outwell, at the commencement of Well-creek, which connects it with the river Ouse. The town is of good appearance. The church, which is large and of irregular structure, was built prior to 1401, since it contains a curious monument bearing that date. It has a handsome tower. Many improvements have been made of late years in the public and other buildings. There is a stone bridge of one arch across the river. There is a grammar-school at Wisbech, which has two exhibitions for Magdalen College, Cambridge; and various charities.

March, a market town, in the Isle of Ely, twenty-four miles north of Cambridge. It is situated on the banks of the Old Nen, which is here navigable, and by which the town has a considerable traffic in coals, timber, and corn. Many Roman antiquities have been found here. The church is a fine building.

Population of the market-towns of Cambridgeshire:—

Cambridge, town and University	20,917
Newmarket	714*
Soham	3667
Ely (city)	6189
Wisbech	8777
March	3098
Thorney	2055
Caxton	417
Linton	1678

Authorities.

Carter's History of the County of Cambridgeshire.

Vancouver's General View of the Agriculture of the County of Cambridgeshire.

Description of the University, Town, and County of Cambridge.

Ackerman's History of the University of Cambridge.

Dyer's History of the University of Cambridge.

Stranger's Companion through the University and Town of Cambridge.

Wilson's Memorabilia Cantabrigiæ.

Cambridge University Calendar.

Miller's Description of Ely Cathedral.

NORFOLK *

Is bounded on the south and south-east by Suffolk; on the north-east and north by the North Sea; on the north-west by the Wash; on the west and south-west by Cambridgeshire. It measures about sixty miles from east to west, and forty from north to south; and has an area of 2024 square miles. There is nothing interesting in the appearance of this county. The range of chalk hills already described (p 37) enters this county on the south near Thetford, and continues to Brandon, whence it runs in nearly a north direction, through the west part of the county to Hunstanton on the north west angle of the coast, and extends some miles along the northern coast. With this exception the country presents nearly one flat surface, which, not a great many years ago, was enlivened by very little wood, but at present the appearance of the country in this respect is much improved. Towards the south-east there are large tracts of heath, sandy wastes, and marshy grounds; and in East Norfolk there are many shallow ponds, provincially called broads. To the north, commencing about Norwich, the country assumes a more pleasing aspect, and is occasionally a little broken by slight undulations. But the fine bold chalk cliffs of Sussex and Kent are not found in this county; and the stratum sloping towards Norfolk terminates in a flat shore covered

* The parish which is in this county; the whole of the town together with the other parish which is in Suffolk, contains 2848 inhabitants.

* In the description of those counties, which are now politically divided for the purpose of parliamentary representation, all the represented boroughs, and next to them the principal towns, are described in one of these divisions before the other division is noticed. It has been found convenient to deviate from this arrangement with respect to Kent and Sussex; these counties are divided into rapes, and each rape with the towns it contains is described separately. Similar reasons may render it convenient to deviate from the general rule in other instances.

with shingle or sand, and frequently with ooze, which is a rich muddy deposit from the sea. At the north-west angle of the coast stands the rock of Hunstanton, the most striking eminence in the county. On the eastern coast, extending from Caistor within two miles of Yarmouth, as far north as Happisburg, are the *Meals* or Marum hills, a series of banks composed of sand and pebbles, thrown into these forms by the violence of the waves, and retaining their present position by the roots of various sea-plants which grow on them in large quantities. These plants are *Arundo arenaria*, *Arenaria Peploides*, *Carex arenaria*, and others. These hills form a protection against the sea, to whose ravages a valuable part of the county would otherwise be exposed. Similar banks run parallel to the shore, and are not visible till nearly low-water point; the most distant of these banks from the coast have often proved fatal to vessels. The Yarmouth bank, which runs a short distance from the coast, protects the intermediate channel called *the Roads*, in which a large fleet may lie secure in tempestuous weather. There are two light-houses at Happisburg, and another at Winterton, between Happisburg, and Yarmouth. Farther on to the west at Cromer, there is another light-house.

Great inroads have been made by the sea on the eastern coast, and it is still liable to slips. The cliffs are in some places above 200 feet high, and the havoc made here has been formidable. An ancient town north of Cromer was at an early period of our history quite swallowed up by the sea, and its inhabitants retreated inland to the present Cromer. At Sherringham, about five miles west of Cromer, seventeen yards of the cliff were swept away between the years 1824 and 1829; and there is now a depth of 20 feet at one point of the sea off that village, where only fifty years ago there stood a cliff 50 feet high, with houses upon it. In the winter of 1825 *, a fallen mass was precipitated from near the light-house at Cromer, which covered twelve acres, extending far into the sea. The cliff is at this part 250 feet in height. The cliffs here are composed of alternating strata of blue clay, gravel, loam, and fine sand *. The chalk on the north coast does not show itself west of Weybourne, till we come to Hunstanton: between Blakeney harbour and Hunstanton the coast is skirted with sand-hills or *meals*. From Hunstanton to Lynn Regis salt marshes extend along the eastern shore of the Wash. The coast of Norfolk, from Yarmouth to Hunstanton Rock, is 65 miles in length; and along the Wash, from Hunstanton to the mouth of the Ouse, is 25 miles, making 90 miles extent of coast.

The principal rivers are the Great and Little Ouse, the Nar, the Wensum, the Bure, the Yare, and the Waveney. The Great Ouse enters the county on the south-west from Cambridgeshire, receiving at this point the waters of the Little Ouse: the Little Ouse rises in a swampy meadow near the village of Lopham, and forms a natural boundary for 30 miles between part of Suffolk and Norfolk. The united stream of the Ouse flows in a northerly direction, and enters the Wash about two miles below the harbour of Lynn Regis. The Nar rises near Litcham in Norfolk, takes a westerly course, and joins the Ouse near its mouth: it is navigable as far as Narborough, a small market town, about ten miles from Lynn Regis. The Stoke falls into the Ouse on the right bank, about five miles below its confluence with the Little Ouse: it is navigable as far as Stoke Ferry, a distance of eight miles. The Little Ouse is navigable as far as Thetford. The Great Ouse, which runs through six counties, is a considerable river in Norfolk. Passing through so flat a country, its course is tortuous and usually quiet; it sometimes overflows its banks. The very high tides caused by the equinoctial winds rush up the channel with great violence, frequently break through the embankments, and occasion great damage. The Wensum rises in the north-west part of the county near West Rudham, and taking a south-east direction, pursues a serpentine course through Norwich, where it joins the Yare, which rises very nearly in the middle of the county. The united stream continues an irregular south-east, and then a north-east course, passing through Braydon Water, and falls into the sea at Great Yarmouth.

* A correspondent states that, in 1832, a much larger fall of the Lighthouse cliff took place, which has made it necessary to take down the old Light-house, and build another some hundred yards further inland.

* Lyell's Principles of Geology.

The Bure or North River, joins the Yare at the east end of the Braydon Water: it rises in the northern part of the county, near Hindolveston, and takes a south-east direction by Aylsham, from which place it has been made navigable to the sea at Yarmouth. The Waveney rises on the south near the source of the Little Ouse, and forming a natural boundary between Norfolk and Suffolk for 46 miles, meets the Yare at Burgh Castle. Most of these rivers rise in swamps, and passing over a slightly inclined surface, run slowly: sometimes they partially overflow their banks, and by keeping the adjacent lands in a moist state, cause the atmosphere to be constantly surcharged with vapour. In some parts they have formed numerous sheets of shallow and almost stagnant water called *broads* or *meres*: among these, Braydon broad, to the south-west of Yarmouth, is the largest, being three miles long and one wide. There are others some miles to the north of this nearly as large, called Barton, Hickling, and Stalham broads. These meres are plentifully stocked with fish, and much frequented by water fowl.

Hitherto the water communication between Norwich and the sea has been confined to the river Yare, which runs from Norwich to Yarmouth, a distance along the river of thirty miles. This river is navigated up to Norwich by wherries of from twenty to forty tons burden. It is, of course, necessary that all the goods transported in these wherries should be transhipped at Yarmouth. About 300,000 quarters of corn, and 50,000 sacks of flour, are annually conveyed down the river to Yarmouth, and about 60,000 chaldrons of coal, and 20,000 tons of goods are brought up the river from Yarmouth every year: more than half of the whole imports and exports to and from Yarmouth belonged to Norwich. It was therefore of importance that Norwich should be made a port for sea-borne vessels; and, in 1827, an act was passed for carrying this into execution. Mr. Cubitt was intrusted with the direction of forming this navigation, which is thirty miles in extent, for vessels drawing ten feet water. It commences at Norwich, where a short canal cuts off two bends of the river: it then follows the course of the river, with the exception of two other short cuts to Reedham Ferry, where a canal, about two miles long, connects it with the Waveney; it next follows the course of this stream to Oulton dyke, where another cut, about three-quarters of a mile long, connects it with Lake Lothing, a small lake near Lowestoft in Suffolk: at the eastern end of which, a cut of half a mile in length connects it with the sea. This last part of the canal is forty feet wide. A large swing bridge is erected over it on the line of the turnpike-road from Yarmouth and Lowestoft to London. This bridge is of cast iron, 50 feet in the span: it opens in the middle a clear passage for vessels 50 feet wide. A lock and sluice are constructed 200 yards from the sea, where an inner harbour is made 250 feet wide, and 26 feet deep. This sluice and lock between Lake Lothing and the sea have their foundations laid thirty feet below the level of spring tides. The sluice is fifty feet in clear width, and twenty-four feet deep. The sluice and lock stop up the entrance of the harbour against the sea, and they are likewise constructed for the purpose of occasionally retaining the contents of *the harbour* (about 200 acres) at the level of high water, and by suddenly discharging the same at low water, to clear and keep open a passage to a depth of ten feet below* low water of the sea.

A canal, called the North Walsham and Dilham Canal, commences at Dilham, about twelve miles N.N.E. of Norwich, and terminates at the confluence of the Bure and Ant, a small stream which rises to the north of North Walsham. It is seven miles in length.

The soil of this county consists principally of sand and clay, intermixed in different proportions. To the east and south-east of Norwich, clay predominates, forming a stiff tenacious soil. To the north and north-east, the land is a good sandy loam. Near the Wash it is formed by alluvium, and consists mostly of soft mud. In the south-west there are fenny tracts; and in the western and southern districts, the sand bears so large a proportion to the clay, that the earth is dry and nearly without vegetation, and is often drifted by the wind.

The climate of this county is considered one of the least favourable in

* See Companion to the Almanac for 1829, and the three succeeding years.

England. It is entirely exposed on the north-east, and is consequently bleak and unpleasant; the marshy districts also are extremely insalubrious and make ague a common complaint. Scarcely more than a century ago, a great part of this county consisted of rabbit-warrens and sheep-walks. Sir Robert Walpole first set the example of planting trees here, and Lord Townsend endeavoured to promote useful husbandry. Since that time agricultural skill and enterprise have entirely changed the character of the county; and it now ranks among the first in productiveness, which is due to judicious management of the various soils. In 1793 it was computed that a million's worth of grain was annually sent out of this county, and since that time the husbandry of Norfolk has not been stationary. Wheat and barley form the principal crops, alternating with turnips and the artificial grasses. Rye and buck-wheat are likewise grown. Norfolk has long been noted for its turnip husbandry, which was first introduced into England in this county by Lord Townsend, in the reign of George I. Mustard and saffron in small quantities are sometimes grown in the western part: and flax and hemp, to no great amount, in the south. Grazing farms are of secondary importance to those under tillage. The sheep of the Norfolk breed is a hardy, active animal, well-suited to the soil and climate, and bears very good wool. It is distinguished by a black nose and feet; the male has horns. Large flocks of sheep are kept, but at present they are not confined to sheep of the original stock of the county. Poultry, of all descriptions, is very abundant. It is computed, that there are more turkies reared in Norfolk and Suffolk than in all the rest of England. They are bred in the sandy districts, and sent to London in great numbers. Geese are reared in the fenny parts, and are sent to London and other distant markets. Wild rabbits are abundant, and help to supply the markets of the metropolis; game is likewise very plentiful. The rivers are abundantly stocked with fish, which are also caught in large quantities in the Wash. During spring and summer, mackarel appear in vast shoals; and the herring fishery forms the most important source of profit to some of the coast towns.

Norfolk is divided into thirty-three hundreds, which contain 737 parishes, one city, and twenty-nine market towns, four of which are sea-ports. It is likewise politically divided into two divisions, eastern and western, each of which sends two members to Parliament. The eastern division comprises the hundreds of—Blofield, Clavering, Depwade, Diss, Earsham, North Erpingham, South Erpingham, Eynesford, East Flegg, West Flegg, Forehoe, Happing, Henstead, Humbleyard, Loddon, Taversham, Tunstead, Walsham. The western division comprises the hundreds of Freebridge Marshland, Smithdon, Freebridge Lynn, Clacklose, Brothercross, Gallow, Holt, Launditch, South Greenhoe, Grimeshoe, North Greenhoe, Wayland, Shropham, Gilt Cross, Mitford.

Norwich, the capital of Norfolk, is a populous city, situated near the centre of the eastern division. It is a county of itself, and sends two members to Parliament. It is the chief city in the eastern part of the kingdom, and from our earliest records has been a place of importance. It is supposed to have been the residence of the kings of the Iceni. and the site of the Venta Icenorum of the Romans; but perhaps Caister, near Norwich, is the old Venta. It was termed by the Saxons Northwic, or Northern Town. It was formerly surrounded by an embattled wall with twelve gates and forty towers. The city is built on each side of the winding banks of the river Wensum, which is navigable up to the town, where it is crossed by six bridges, one of which is an iron bridge. The streets in general are narrow and irregular, but latterly many improvements have been made, and the modern part is well built. An ancient castle stands to the south of the river on an artificial eminence. Its origin is dated as far back as the sixth century: and, by the style of the present fabric, there is every reason to suppose that it is the same that was erected by Canute the Dane; but antiquarians differ on this point.* It was made a royal prison in the reign of Edward III., and ever since that time the Keep has been employed as the county gaol. Few remains of the castle, except this part, are now left; but the architecture of what remains is sufficient to show

* Observations on ancient castles, Archæologia, vol. iv. p. 396.

that it is decidedly Saxon: it is considered by Dr. King to be the finest specimen of that style left in England. This Keep is 92 feet 10 inches wide, and 98 feet long. It was formerly surrounded by three moats, only one of which still exists; buildings now stand on the site of the others. Over the present ditch is a bridge with a semi-circular arch of forty feet in diameter. It was found necessary to enlarge the county gaol in 1793, and in consequence another building was attached to the ancient prison on the eastern side, and the whole was enclosed with iron palisades and gates. The modern erection was rather inconsistent with the architecture of the venerable fabric, and very much injured its appearance. All this has now been taken down, and a new prison has been erected. They are also restoring the old castle, or, in other words, refacing it with white stone.

The cathedral of Norwich ranks as a building among the first in the kingdom. It was originally founded about the close of the eleventh century; but through successive reigns it received many repairs and additions, which are apparent in its architecture, and was not completed in its present form till the fifteenth century. The principal parts of the cathedral consist of a nave with side aisles, transepts, a choir, with semi-circular east end, and an aisle surrounding it. The cloisters form a square, the side of which is 174 feet, and join the south side of the nave. The whole length of the church, from east to west, is 411 feet; of the nave, 140 feet; the width of the transepts is 191 feet; and of the nave with aisles 72 feet. A lofty tower, 315 feet in height, rises at the intersection of the transepts with the nave and choir: this is a fine specimen of Norman circular architecture, just before the introduction of the pointed style. The bishop's palace joins the cathedral on the north side; the present building was erected in the beginning of the fourteenth century, since which time it has undergone many repairs and improvements. This city contains more parish-churches than any other town in the kingdom, except the metropolis; there are thirty-six churches besides various dissenting chapels. In the market-place is the Guildhall, where the assizes and quarter-sessions for the city are held. This large edifice was erected in the beginning of the sixteenth century; but nearly fifty years elapsed before it was entirely completed. St. Andrew's Hall, in which public business is also transacted, is a very handsome building, and was formerly the conventual church of the Benedictine Monastery of Black-friars. The other buildings and institutions worthy of notice are—1st. The Bridewell, built of flint; 2d. The Hospital, a large and elegant brick building, erected in 1772, by voluntary subscription; 3d. Bethlehem Hospital, founded 1713: 4th. The Free Grammar School, originally founded by Bishop Salmon in 1325; it has four exhibitions at Caius College, Cambridge; nine at Corpus Christi, Cambridge; five of which are shared with Aylsham and Wymondham, and four at Emmanuel College; 5th. An extensive Library, belonging to the subscribers; a very fine new building is now being erected for it; 6th. Society of Artists, who have an annual public exhibition of their pictures; 7th. A Museum of considerable extent in a building erected for the purpose; 8th. A large and elegant covered building, the Corn Exchange; 9th. The new City Gaol; 10th, Yarn Factory; 11th. Grout's Silk Mills; 12th, The Theatre; 13th. The Assembly House, where the county and city balls take place; 14th. The Gas Works; 15th the Bazaar. There is an immense number of charitable bequests within the county of the city of Norfolk, the whole income of which amounts to a very considerable sum *.

From the reign of Henry I., this city and the adjacent parts have been noted for the manufacture of woollen goods, which was introduced at that time by a colony of Flemings, who first settled at Worsted, about twelve miles north-north-east of Norwich; whence the word *worsted* is derived. These settlers finally took up their abode at Norwich. In the reign of Henry VI. their manufacture had so much increased as to enter into competition in the foreign markets with similar goods manufactured in the countries from which the art had been introduced. In the reign of Elizabeth, many more Flemings found an asylum in this colony, and their art was, in consequence, still further extended. New textures, under various names, were invented with an intermixture of silk or mohair and wool; and in 1575, the well-known fabric,

* Public Charities, Digest, 1835.

called bombazine, was first produced, the manufacture of which is carried on largely in this city to the present day. The manufacture and trade of Norwich, and its vicinity for twenty miles round, rapidly increased, and its goods were found in every foreign market; and though 50,000 tons of wool were annually spun into yarn, it was found necessary to import yarn from Ireland and other places, for the supply of the weavers. The long continental war, however, for a time, checked the prosperity of Norwich. Its manufactures of bombazine*, worsted, damask, fine camlets, shawls, and other fancy goods, are carried on at present to a very large extent; the shawls and fancy goods are superior to any manufacture of the kind in any other part of England. Within the last few years, the manufacture of cotton thread-lace was introduced, but it was soon discontinued. The linen known as Suffolk hempen is made here. The wool of the Norfolk sheep is mostly sent to Yorkshire, and the Lincolnshire and Leicestershire wools are generally used in the Norwich manufactures. It is expected that the prosperity of Norwich will be much increased by the new ship canal already described, which makes the town itself a port.

Yarmouth, eighteen miles east by south from Norwich, was, till lately, the only port of Norwich, with which it communicates by the navigable river Yare. Through Yarmouth, the goods of Norwich found an outlet to the countries on the continent, and by the same channel were imported into that city coals, wine, oil, Irish yarn, &c. Yarmouth sends two members to Parliament. It has been usual to distinguish it as Great Yarmouth; the small hamlet of South Town being styled Little Yarmouth. Recently, they have been incorporated together, with the adjoining parish of Gorleston, and the right of voting has been extended to South Town, and the remaining part of the latter parish.

Yarmouth extends more than a mile in length, and half a mile in breadth. It stands on a long narrow slip between the Yare and the sea, having the sea on the east, and on the west the Yare. The town is large and irregularly built, containing four principal and numerous narrow streets. A wall extended on the east, north, and south sides 6720 feet in aggregate length, having ten gates and sixteen towers. This wall was begun in the reign of Edward I.: it is composed of flint, pebbles, and shingle, so strongly cemented together, that its demolition even at the present day is attended with no trifling labour. A deep moat formerly surrounded the wall, and much pains was taken to make this town a place of security. There was likewise a castle, which was destroyed in the early part of the seventeenth century. The north gate, which was a fine piece of architecture, was taken down in 1807, to improve this entrance into the town, which before was very narrow; the south gate was for the same reason removed in 1812. The most perfect tower now standing is that on the south-east. Its form is semicircular, having its diameter next the wall: the ground-floor has been rendered habitable, and the apartments above are used as warehouses. A drawbridge is thrown across the Yare, about two miles and a half from its mouth, nearly opposite the centre of the town, connecting it with Little Yarmouth, or South Town, in Suffolk. This bridge, built principally of wood, was originally constructed in 1785, and since improved in 1809; the middle arch can be raised with little labour, and with great quickness, for the passage of ships. There is also an iron suspension bridge over the North River. The quay, which is considered one of the finest in Europe, runs along the river north and south of the wooden bridge, and is one mile and two hundred and seventy yards in length, the bridge being nearly in the centre. The quay on the north of the bridge is used for smaller vessels engaged in the inland and coasting trades; on the south side is a range of handsome buildings, in the centre of which is situated the town-hall, a fine building, with a Tuscan portico. A spacious opening in the centre of the quay leads to the market-place, which encloses an area of two and three-quarters acres. The church, according to Swinden, was built in 1123: it is in the form of a perfect cross, having a nave, two side aisles, a chancel, and two single aisle transepts; from the intersection of the cross springs an embattled tower. There is likewise a chapel of ease, and places of worship for dissenters. Recently a large handsome new church has been erected, as it is in contemplation to divide Yarmouth into two parishes. It is situ-

* In 1831 there were 3752 males upwards of twenty years of age employed in this manufacture.

ated within an opening of the old wall of the town, and leading to the jetty; a part of the wall was removed to allow space for the building. The Guildhall is a convenient building, situated near the old church. Nearly in the centre of the south quay stands the Custom-house, a large and handsome edifice. The other public buildings are, the Excise-office; the old town-hall, erected in 1600, the upper apartment of which is appropriated to a public library, first established in 1802; and the theatre, erected in 1778. The Fishermen's Hospital, founded in 1702, is a low quadrangular building, situated a little to the north-east of the market-place; the Children's Hospital, originally founded by Edward I., is a grammar-school for the education and support of thirty boys and twenty girls, who are afterwards apprenticed to some business. The parish workhouse at present forms part of the same building. There is likewise a Free School, founded in 1713, a Lancasterian, and several charity schools. A new House of Correction was built in 1818, adjoining the old Gaol, which is an irregular edifice. Barracks capable of containing 1000 men are situated on the beach. On the *denes*, or sands, south-east of the town, is a beautiful column, 144 feet high, erected to the memory of Nelson in 1817. A large silk factory, established here in 1818, stands on the east side of the town. The harbour of this town was formed with great difficulty and labour, by the erection of piers and a jetty, and is kept in a state of repair at a very heavy cost. A north pier was first constructed with much labour, but this has since been removed, and replaced by another, chiefly for the convenience of mooring ships in harbour. The south pier is at the mouth of the Yare; a continuation of it is carried up the river in a fine curve, forming an extensive and excellent wharf. This pier is 1020 feet long, and 80 feet broad. In addition to the piers a jetty was constructed on the beach, some way to the north, in 1808; this extends into the sea upwards of 450 feet, and has a platform 21 feet in width. On the north side of the haven's mouth is a mural fortification, mounting ten pieces of ordnance, besides which there are three batteries at intervals along the beach. This harbour affords a secure shelter to shipping, and the vessels engaged in the north of England trade seek protection in it against easterly storms. The coast, in consequence of the sand-banks already mentioned, is very shallow and dangerous. This place is the principal port, except London, for the English trade to the north of Europe; and besides fishing-smacks, numerous vessels belong to the resident merchants. The herring fishery, which has long been carried on at Yarmouth to a very great extent, affords subsistence to some thousands of persons. It commences a few days before Michaelmas, and ends generally in the middle of November. The mackarel fishing which begins in May, and lasts about eight weeks, employs 700 men, and 70 boats. This town has long been much frequented for sea-bathing, and contains all the usual amusements and accommodations of a watering-place. Yarmouth is well lighted with gas.

Worsted, twelve miles north-north-east of Norwich, was formerly a town with a considerable trade, but it is now reduced to a village, its manufactures being removed to Norwich and its vicinity.

North Walsham, a market town, is situated about five or six miles from the sea, and thirteen miles north-north-east of Norwich. It consists of three streets, which form an irregular triangle, and contains, besides the parish church, four meeting-houses, and a free school, founded in 1606.

Aylsham, eleven miles north of Norwich, is situated on the south-west bank of the river Bure, which has been made navigable for boats of thirteen tons burden up to this place. The church is an ancient structure of the fourteenth century, built in the decorated English style. There are, likewise, two meeting-houses for dissenters. A free school, founded here in 1517, is now converted into a national school, and the pupils are instructed on Dr. Bell's plan. There are no particular manufactures in the town, but some of the inhabitants are employed in weaving for the Norwich manufacturers.

Cromer is a small place on the north-east coast, twenty miles north of Norwich. The encroachments of the sea on the high cliffs here have been very great. The height of the light-house cliff at Cromer is 250 feet. A town named Shipden is mentioned in Domesday Book as situated between this place and the sea, of which there

is not at present the slightest vestige; and even the town of Cromer has suffered from the effects of the waves. Several attempts have been made to erect a pier here, but the works have been constantly washed away by the sea. Cromer is now a fishing town, and is likewise visited for sea-bathing.

Holt, twenty miles north-west by north of Norwich, is situated on an eminence; the town is well-built, and the public buildings are handsome. Besides the church, there is a place of worship for dissenters. There is a free grammar school under the patronage of the Fishmongers' Company in London. A scholarship and a fellowship to Sidney College, Cambridge, belong to this school.

Wells, a small sea-port, twenty-seven miles north-west by north of Norwich, has a harbour, but it is difficult of access on account of the shifting of the sands: its chief import is coals, and it has an oyster-fishery.

Walsingham, a market-town twenty-five miles N.W. of Norwich, was celebrated for its ancient monastery. There are still some Saxon remains, and more considerable ruins of a later date of this once vast and noble building. The present church is a fine specimen of ancient architecture. The building which is now used as a Bridewell was once an hospital for lazars, founded in 1486. Here is a free school.

East Dereham, a market-town and polling place, fourteen miles and a half west by north of Norwich, of great antiquity, is tolerably well-built, and contains many good houses. The church is a very ancient structure, built in the collegiate form, with circular and octangular columns, and has four chapels. The sculptured font bears the date of 1468. There are, besides, three meeting-houses. In the centre of the town are assembly-rooms; near which stands a square column, having on its sides the distances marked in measured miles from the principal towns and seats in the country.

Hingham, a small market-town thirteen miles west-south-west of Norwich. It is neat, but irregularly built. The church is a fine building, and there is also a free grammar school.

Wymondham, a market town, on the great road to London, is nine miles west-south-west of Norwich. A monastery was erected here in the reign of Henry I., some remains of which are to be seen in the present church, a curious and interesting building composed of the architecture of different periods. The inhabitants are engaged in several manufactures, consisting of various branches of weaving and turnery. There is a free grammar school founded in 1559.

Diss, nineteen miles south-south-west of Norwich, is situated on the river Waveney. There are, besides a church, two meeting-houses for dissenters. It has manufactures of hempen cloth and of stockings.

Lynn Regis, on the north-west of the county, and a sea-port on the Ouse, is about two miles from its mouth and thirty-eight miles west by north of Norwich. It sends two members to Parliament. Some antiquarians suppose that this town is of British origin: but it is more probable that it was founded by the Saxons. It was not until the reign of Henry III. that it rose to any importance. It is of a long irregular form, about one mile and a half in length, and half a mile in breadth, and consists chiefly of two principal streets and several smaller ones: but it is an improving town, and many houses have been recently built, especially near the South Gate. It was formerly encompassed on the land side by a wall and a deep wet ditch, defended by nine bastions; the wall and bastions are now very much dilapidated. Four small streams, here called Fleets, as on the opposite coast of Holland they are called Vliets, divide the town into several parts: over these there are eleven bridges. The Tuesday's market-place is an area of three acres, surrounded by good houses. There are two very fine churches of ancient structure: besides which there are places of worship for dissenters. The Exchange or Custom-House is a handsome building of freestone, erected in 1683. The Guildhall is an ancient edifice of stone and flint. A new theatre has recently supplied the place of the old one, which has been converted into warehouses. The grammar-school, founded in the reign of Henry VII., has one exhibition to Emmanuel College, one to Trinity College, one to St. John's College, and two more to any other college. A Lancasterian school, sunday-schools, several alms-houses, and a large library are among the public institutions of this town. The inhabitants are supplied with water from a river near Gay-

wood, a small village in the vicinity, whence water is conveyed by small canals, rather more than a mile in length, to the conduits of the town. There is deep anchorage in Lynn Harbour, but not very good on account of the slimy nature of the bed of the river. It is capable of receiving three hundred sail of shipping. Lynn is a port of considerable importance, * especially for coals, corn, and wine. In a book written some years back, we find that Lynn then "annually imported 100,000 chaldron of coals, and above 2000 pipes of wine.*" The corporation consists of a mayor, twelve aldermen, eighteen common councilmen, and inferior officers.

Swaffham, twenty-five miles west of Norwich, the election town for the West Division of the county, is a respectable place, situated on high ground, and considered extremely salubrious. It contains a large ancient church of very handsome architecture, and a Quakers' Meeting. In the vicinity of the town is an extensive down on which races are annually held. Five miles from Swaffham on the north, situated on rising ground, are the ruins of Castle Acre, which was once a strong fortress, the whole site of which is said to have covered eighteen acres. Its present remains exhibit a very ragged mouldering appearance, occupying about an acre of ground. At Brancaster, two miles from Burnham, and about thirty-six north-west of Norwich, are the remains of an ancient encampment and fortification, supposed to have been the Branodunum of the Romans. It occupied eight acres.

Thetford, a market-town and borough on the Little Ouse, twenty-seven miles south-west by west of Norwich, sends two members to Parliament. It was once a place of great importance, and the ruins of ecclesiastic and other buildings still furnish some slight evidence of its former splendour. At one period it contained twenty churches and eight monasteries, besides other religious and charitable foundations. During the Saxon Heptarchy, Thetford was the chief city of East Anglia, and was the see of the bishop, which, in 1094, was transferred to Norwich. Only three of the churches remain; the principal building in the town is the Guildhall, in which the Lent Assizes for the county were held. Thetford is now a straggling, irregularly-built town, with comparatively but little trade and manufactures. The free grammar-school, founded by James I., is situated on the Suffolk side of the river. There are, also, almshouses and several charitable institutions: and there is a county gaol. The navigation of the Little Ouse up to the town has, within the last few years, been improved; and there is now a tolerable trade in coals and corn by way of Lynn. It has a manufacture of coarse woollen cloth, a paper-mill, and an iron and machine manufactory. In the vicinity of the town there is a mineral spring; various fossils are also found here. The country round is for some miles extremely thinly peopled, and some of the farms are of immense extent; the largest are 3500 acres. The corporation of the town consists of a mayor, ten aldermen, twenty common councilmen, a recorder, town-clerk, sword-bearer, and two serjeants-at-mace.

Population of the market-towns in Norfolk:—

Norwich	61,110
Yarmouth	21,115
* Worsted	830
North Walsham	2,615
Cawston	1,110
Aylsham	2,334
Cromer	1,232
Holt	1,622
Wells	3,624
Walsingham	1438
Fakenham	2,077
* Foulsham	958
* Mattishall	1,093
East Dereham	3,913
* Snettisham	926
Burnham Westgate	1,022
* Castle Rising	358
King's Lynn	13,370
Swaffham	3,285
*Market Downham	2,198
* Methwold	1,266
Thetford	3,462
Watton	1,027
Hingham	1,539
Wymondham	5,485
Attleborough	1,939
East Harling	1,031
Old & New Buckenham	1,996
Diss	2,934
Harleston, with Reddenhall parish	1,784
Loddon	1,175
Kenning-hall	1,251

* Norfolk Tour, 6th Edition, 1808. p. 249.

* These were market-towns, but they are now mostly villages.

Litcham	771
Stoke Ferry	706

Authorities.

Blomfield's History of Norfolk.

Kent's General View of the Agriculture of Norfolk.

Bartell's Observations on the town of Cromer.

Druery's Historical Notices of Great Yarmouth.

Excursions in Norfolk.

Swinden's History, &c. of Great Yarmouth.

SUFFOLK

Is bounded on the south by Essex, on the west by Cambridge, on the north by Norfolk, and on the east by the German Ocean. Its length, from east to west, is about fifty-two miles; from north to south, thirty-two miles. Its area is about 1515 square miles. The length of sea-coast is about 52 miles.

The country in general presents a level surface, with few considerable elevations; the highest land is towards the west. The chalk ridge which runs through this part of England in a north-east direction, enters Suffolk, some miles west of Bury St. Edmund's, and continues thence to Thetford. The coast mostly consists of long lines of cliff, part of which is continually being washed away by the action of the waves. These cliffs are chiefly composed of clay, sand and gravel, like those of Norfolk.

The principal rivers are the Orwell, the Deben, the Waveney, and the Lark, the Ald and the Blithe. The Orwell has its source near the centre of the county, two miles south-west of Mendlesham, and a few miles north of Stow Market, near which town it flows, and then in a southern direction to Needham and Ipswich: above Ipswich it is generally known as the river Gipping. The Gippen or Gipping was made navigable to Stow Upland bridge, near Stow Market, in the year 1793; its length from thence to Ipswich is sixteen miles. At Ipswich it widens into a kind of æstuary, and joining the river Stour, they both fall into the sea between Harwich and Landguard Fort. The Deben takes its rise near Debenham, on the west; it thence flows in a south-east direction to near Kindlesham; and then taking a south-west course, goes to Woodbridge, where it widens considerably, and flows in a south by east course till it falls into the German Ocean about four miles north-east of Landguard Fort. The Alde rises near Framlingham, widens considerably a few miles farther on to the south-east, and falls into the sea after a course nearly parallel to the coast, leaving a long narrow peninsula of gravel between its waters and the German Ocean. The Waveney and the Little Ouse form nearly the whole boundary between this county and Norfolk. The Blithe rises near Laxfield, in the north-east part of the county, passes near Halesworth, and then flows in nearly an easterly direction to Southwold, where it empties itself into the sea. It has been made navigable to Halesworth, a distance of nine miles. The Lark rises in the south-west part of the county, flows north by Bury St. Edmund's, and continues its course in a north-west direction, till it falls into the Great Ouse, some miles below Ely. This river was made navigable to Bury St. Edmund's in 1700. The Bret rises near Brethenham, passes southwards to Hadleigh, and after a short course falls into the Stour. In the north-east part of the county, there are, besides Lake Lothing, three or four small meres.

The soil varies from the lightest sand to the heaviest clay. The former predominates on the north-west, which is a dreary, and, for the most part, barren district, consisting of rabbit-warrens and sheep-walks; its soil has, however, in some situations been considerably improved by the artificial admixture of clay. Near the Little Ouse is a tract of fen-land, where peat bog is sometimes found from one to six feet beneath its surface. The interior of the county is a strong fertile loam; on the east, north of the river Orwell, there is a district of a sandy soil; to the south of that river there is a smaller tract of rich loam. Suffolk is almost entirely an agricultural county: the spinning and carding of wool were formerly carried on to a great extent; but these manufactures have been mostly transferred to Yorkshire. Arable husbandry is now principally pursued; but much attention is likewise paid to the management of the dairy and the rearing of sheep. The most usual crops are all the kinds of corn, beans, pease, buckwheat, cole-seed, turnips, carrots, and the artificial grasses. Hemp is raised in a district about ten miles in breadth, and extending in length from Eye to Beccles, along

the valley of the Waveney. The Suffolk cows are small and without horns, but are noted for the large quantity of milk which they yield. A fine breed of draught horses is likewise produced in this county. Numerous sheep are fed here, both of the Norfolk and South Down breeds. Hogs and poultry are very abundant, and turkeys are reared here in nearly as great quantities as in Norfolk. In the western parts of the county, pigeons are bred in the open fields in great quantities. There are many rabbit-warrens in the sandy district of the west: one near Brandon is said to return above 40,000 rabbits in a year. The climate of Suffolk is considered one of the driest in England: but it is cold, the frost in winter, and the north-east winds in spring being usually sharp and severe.

Suffolk is divided into twenty-three hundreds, containing 480 parishes. It is, likewise, politically divided into the liberties of Bury St. Edmund's, and the body of the county, for each of which there is a separate grand jury. Recently, this county has been divided into two parts, the eastern and western divisions, each of which sends two members to Parliament.

The western division comprises the Liberty of Bury, containing the Hundreds of Babergh, Blackburn, Cosford, Lackford, Risbridge, Thedwastre, Thingoe, and the Hundreds of Hartsmere and Stow.

The eastern division comprises the Hundreds of Blything, Bosmere and Claydon, Carlford, Colneis, Hoxne, Mutford and Lothingland, Loes, Plomesgate, Sampford, Thredling, Wangford, Wilford, Ipswich Borough and Liberty.

Ipswich, sixty-one miles north-east by east of London, is the county town of Suffolk, and the election town of the eastern division: it sends two members to Parliament. Ipswich stands on a gentle declivity, on the north banks of the river Orwell, the curved direction of which is followed by some of the streets of the town. It is sheltered by rising ground from the north-easterly winds. The situation is dry and healthy, and there is a plentiful supply of good spring water. Ipswich is an ancient town, with narrow, irregular streets, but it is well lighted and paved, and some of the more modern houses are handsome. There are twelve parish churches, besides chapels and meeting-houses of different sectarians. The county gaol, which is well built and well arranged, is enclosed by walls twenty feet high, which surround a space of one acre and a half. The other principal buildings and institutions are, the town-hall, the shire-hall, a market-place, a custom-house, and a public library. A handsome iron bridge connects Ipswich with the adjacent hamlet of Stoke. Vessels of nearly 200 tons burthen may sail up to the town, and vessels of any burthen within three miles. Ipswich is, therefore, very favourably situated for commerce, and its trade is considerable, especially in corn and coals. Malting is carried on to a considerable extent: the only manufacture of the town is in the spinning of yarn for the Norwich weavers. Ipswich contains a grammar-school, and various charities. It appears that a grammar-school was founded in this town at a very early date, for there is some record as to its proper management so early as the year 1477. In 1524 Cardinal Wolsey founded a school here on a very large scale, upon the site of the priory of St. Peter's, intending it as a nursery to his college (Christ's Church) at Oxford; but this establishment was discontinued on the Cardinal's death. He may, however, be considered the founder of the present school, for it was in consequence of what he had already done that Henry VIII. granted a charter for a grammar-school at Ipswich. The charter was confirmed by Elizabeth. The school is open to the boys of the town indiscriminately.

Orford, a market town, situated on the river Ald, is about seventeen miles east by north from Ipswich. Orford was once a place of considerable trade and importance, but gradually fell into decay in consequence of its haven becoming blocked up by a dangerous bar. It is now reduced to an ill-built village. On an eminence to the west are the remains of an ancient castle, supposed to be of Norman origin, but the date of its erection is unknown. All that is now left of the castle is the keep, a polygon of eighteen sides inscribed in a circle of fifty-four feet in diameter, and three square embattled towers by which it is flanked. The church of this town is also of very ancient date, and when entire was a large and handsome building. There are a town-hall and an assembly-house. Orford is a disfranchised borough.

Woodbridge, a very pretty market town, a polling place for the eastern division of the county, is eight miles and a half east-north-east of Ipswich, and about ten miles from the coast, along the river Deben, which is very broad as far as this town, and navigable for vessels trading to London, to the north of England, and to the continent. A great deal of trade is carried on to these different parts, for the convenience of which there are wharfs and quays, and also a dock for building vessels. The streets of this town are narrow, but are tolerably paved, and contain some good houses. The church is an ancient and handsome edifice, with the exterior walls composed of black flints and stone. Here is a grammar-school, founded in 1662. The shell marl found near Woodbridge much improves the sandy soil of the sea-coast. The fossil shells are likewise made into lime.

Aldborough, a small sea-port near the river Ald, is twenty-two miles east-north-east of Ipswich. It was once a place of some importance, but the gradual encroachment of the sea has reduced it to a small fishing place. During the last century, the market-place and a whole street have been washed away by the sea. Here is a good quay for fishing vessels, and the inhabitants are mostly engaged in the herring and sprat fisheries. Aldborough is a disfranchised borough.

Southwold, thirty miles north-east by east of Ipswich, another sea-port, eleven miles south of Lowestoft, situated near the mouth of the river Blythe, is frequented as a watering-place. It contains some good houses. The church is a very fine piece of architecture, and the Guildhall is a handsome building. Both here and at Lowestoft the inhabitants are much engaged in the herring and sprat fisheries, which form the principal business of the towns.

On the coast four miles south of Southwold is Dunwich, a disfranchised borough: the sea is making great encroachments on this part of the coast.

Lowestoft, forty miles north-east of Ipswich, a sea-port town, is situated on a considerable eminence It consists of one principal street, which has a gradual descent from north to south; several other streets proceed from this towards the west. They are narrow and irregular, but well paved and lighted. Here is a chapel of ease, besides three meeting-houses for dissenters. This town has two free schools, a friendly and other benevolent societies, a theatre, and an assembly-room. To the north of the town, on a high cliff, is a light-house, and on the beach below the cliff is another light-house; by keeping the two in a line, vessels are directed safely through the sand-banks near this coast. Near this town the canal from Norwich communicates with the sea. There are manufactures here of twine, rope, and barrels. There is a fine old church at a little distance from the town.

At Burgh Castle, on the borders of the county, about four miles south-west of Yarmouth, there are still remaining the walls of a Roman station in very good preservation, three sides being nearly perfect. They now form the boundary of a ploughed field. The inclosure appears to have been a parallelogram, having its longest side six hundred feet. The area contained within the walls was about six acres. At intervals, in connexion with the wall, were solid towers rather more than semicircular. This wall is composed of layers of flint and Roman tile, with very wide interstices of mortar. The height of the walls without is about ten feet, but within, in some parts seven, and in others only six feet.

Halesworth, twenty-five miles north-east by north of Ipswich, is a market town and polling place on the Blythe, nine miles from Southwold, from which place the river has been made navigable to this town. It chiefly consists of one principal street, about half a mile in length; it is a place of great antiquity, with a handsome church. A mineral spring in the vicinity is esteemed efficacious for diseases of the eyes. Hemp in considerable quantities is grown in the adjacent country. Some of it is spun into yarn and some made into cloth here; the rest is exported in its unmanufactured state. Corn, malt, and lime are likewise articles of trade. An iron foundry was a few years ago erected in this town.

Framlingham, a market town and polling place, fifteen miles north-east by north of Ipswich, is a place of great antiquity, and has a fine old church containing many handsome monuments. It is built of black flint, and was repaired in the reign of Edward VI.; the steeple is 100 feet high. Here are considerable remains of an ancient castle, supposed to have been built by some

of the first East Anglian kings. The walls are forty-four feet high, and eight feet thick, and have thirteen square towers. Nothing now is left of the interior of the building.

Beccles, a polling place, thirty-three miles north-east by north of Ipswich, is situated on the river Waveney, which is navigable from Yarmouth, from which this town is distant fifteen miles. There is a fine Gothic church, a grammar-school, founded in 1713, a town-hall, and a gaol on an improved plan.

Bungay, thirty-one miles north north-east of Ipswich, situated on the river Waveney, which is here navigable by barges to Yarmouth, is a neat modern town, with two parish churches and a grammar-school.

Needham Market, a market-town eight miles north-north-west of Ipswich, is one of the polling places for the county. Here is a free grammar-school.

Bury St. Edmund's, on the river Lark, twenty-two miles north-west of Ipswich, is an ancient borough, which sends two members to Parliament.

This town was a considerable place in the time of the Saxons. Its name is said to be derived from Edmund, King of the East Angles, who was canonized, and afterwards buried here. There are still some remains of an abbey, anciently one of the most wealthy and magnificent in Britain. This town had walls and gates, all of which were standing till the middle of the last century, about which time they were taken down. The town at present consists of several straight, well-paved streets, running at right angles to each other. It contains two parish churches of ancient date, the one built in 1430, the other in 1500; both of which are remarkably handsome and spacious. The Abbey gate deserves notice as a remarkably beautiful specimen of what Rickman calls decorated Gothic; and the bell-tower of St. James's is an unusually fine specimen of Norman architecture. Besides these, there are several places of worship for dissenters. A free school, endowed by Edward VI., has six exhibitions to the two Universities: its income is given at 411*l*. 15*s*. in the Charity Commissioners' Reports. Among the public buildings are the sessions-house, a large gaol in the vicinity of the town, a small theatre, and assembly-room. Wool was a considerable article of trade and manufacture in this town; it is likewise reckoned among the greatest corn-markets in the kingdom, and has a very considerable weekly market for cattle. Bury is the election town of the western division.

Eye is an ancient borough, situated twenty miles north of Ipswich, nearly at the north-east point of the western division of the county. It is a small town with narrow streets and mean-looking houses. The church is a large handsome building. This town sends one member to Parliament, a privilege now extended to some of the adjoining parishes. Eye has a grammar-school, with some exhibitions or scholarships belonging to it.

Stow Market, a market-town and polling place, twelve miles north-north-west of Ipswich, is a well-built town, near the river Gippen, which has been made navigable from this place to Ipswich, sixteen miles in length, with fifteen locks: this work was completed in 1793, and has contributed much to the prosperity of the place. The church is a large and beautiful building. The House of Industry for the hundred of Stow stands on an eminence about a mile from the town. It is a well-built, respectable-looking house. A manufacture of sacking, ropes, twine and hempen cloth is carried on here. There is, likewise, business in malt and malting, and some hop plantations are cultivated in the neighbourhood.

Ixworth, a small market town, twenty-two miles north-west by north of Ipswich, is one of the polling places appointed for the county. It is a neat, well-built town, and a place of great antiquity. Here was formerly a priory of Black Canons, founded in the year 1100.

Brandon is five miles from Thetford, and twenty-five miles north-west by north of Ipswich, on the Little Ouse, by which it has communication with the port of Lynn. It has considerable trade in corn, malt, coals, and timber, and some of the inhabitants are employed in making gun-flints, materials for which are obtained in the neighbourhood.

Mildenhall, situated on the branch of the river Ouse, called the Lark, is about thirty-three miles north-west of Ipswich and ten miles north-west of Bury. Part of this large parish is fen land, and the rest upland, with a sub-

stratum of chalk. Some time ago a well was bored here to the depth of 271 feet, of which 176 feet were through chalk * of different kinds. It is one of the polling places appointed for the county.

Wickham Brook is another polling place for the county.

Haverhill, thirty miles west by north of Ipswich, is also partly in Essex. Besides the church, which is a large structure, there are meeting-houses for dissenters. Here is a large charity school. Many of the inhabitants are employed in the making of drabbets and of Tuscan plait.

Lavenham is a market town, fourteen miles west-north-west of Ipswich. This town was also once a considerable manufacturing place, noted for its blue cloths, serges, and other woollen stuffs; but of all these manufactures few remain: the spinning of woollen yarn, and the making of calimancoes are still carried on. A considerable manufacture of hempen cloth has of late years likewise been established. It is one of the polling places appointed for the county. Here is a very handsome church, mostly built of freestone, but some part is of curious flint-work. The steeple is 141 feet high, and 42 feet in diameter. This town has a grammar school founded in 1647, and a spacious market-place.

Sudbury, a market town and borough, seventeen miles west of Ipswich on the east side of the river Stour, which is here navigable for barges, sends two members to Parliament; the franchise has recently been extended to the hamlet of Ballingdon, in Essex, on the other side of the Stour, which is joined to Sudbury by a bridge. Sudbury was one of the first towns in which the woollen manufacture was introduced in the reign of Edward III. For some centuries, the weaving of says, crapes, and ships' flags was in a flourishing state; but these manufactures have long since nearly sunk into decay. A manufactory of says is still remaining, and a silk factory was likewise established in this town some few years ago. Sudbury consists of several irregular, dirty streets; the houses are tolerably well built. It has three parish churches, all of which are large and handsome buildings, and a grammar-school, founded in 1491.

* London Geol. Trans., 2d series.

Neyland, twelve miles south-west by west of Ipswich, is situated below Sudbury, on the Stour, over which it has a large brick bridge of one arch. From its low situation it is occasionally subject to inundations. The church is situated in the middle of the town. The river is navigable to this place, by which means it has a considerable import trade in coals. Here are a manufacture of yarn for the supply of the Norwich weavers, and a manufacture of white and brown soap.

Hadleigh, a market-town on the river Bret. The church, situated in the middle of the town, is a handsome structure. Here are a free grammar-school and twelve almshouses, founded in 1497. This place was formerly of much more consequence as a manufacturing town than at present. The only manufacture now is the spinning yarn for the Norwich weavers.

Population of the market-towns of Suffolk. :—

Ipswich	20,454
Woodbridge	4769
Orford	1302
Aldborough	1341
Framlingham	2145
Saxmundham	1048
Dunwich	232
Southwold	1875
Halesworth	2473
Bungay	3734
Beccles	3862
Lowestoft	4238
Eye	2313
Botesdale	655
Mendlesham	1233
Debenham	1629
Needham Market	1466
Stow Market	2672
Ixworth	1064
Bury St. Edmund's	11,436
Brandon	2065
Mildenhall	3267
Haverhill	1758
Clare	1619
Sudbury	4677
Neyland	1047
Hadleigh	3425
Lavenham	2107
Bildestone	836
Long Melford	2514

Authorities.

Kirby's Suffolk Traveller.
Young's Agriculture of Suffolk.
Excursions in the County of Suffolk, comprising a brief Historical and To-

pographical Delineation of every Town and Village.

Davy's Architectural Antiquities of Suffolk.

ESSEX

Is bounded by the sea on the east, by the river Thames on the south, by Middlesex on the south-west, by Hertfordshire on the north-west, by part of Cambridgeshire, and by Suffolk on the north. During some part of the Saxon heptarchy, this county formed a separate kingdom, called the East Seaxa, or East Saxons, whence its present name. Essex is an irregular, four-sided figure, the coasts of which, from the violent action of the sea, have been broken into islets and peninsulas. The effect of the waves is evident at Naze tower, near Walton, which formerly extended much farther to the east than at present: the ruins of buildings have been found at considerable distances from land; and a shoal, called West Rock, is five miles from the shore. The sea encroaches also on the coast between the Blackwater and Crouch rivers. This county is forty-seven miles from east to west, and forty-two miles from north to south. It is difficult to find the exact length of its coast, being so broken and irregular; but, without reckoning the æstuaries, from the mouth of the Lea to Harwich, the length approximates to about 105 miles. The area of the county is 1532 square miles. Though on the whole a flat country, it is in most parts sufficiently elevated to allow of the land being under tillage. On the south and east, towards the banks of the Thames and the sea-coast, are the most level tracts; towards the north-west the country rises. Along the banks of the Thames the land is low and marshy. Great part of the coast is protected from further invasions of the sea by strong embankments, by which six extensive and valuable salt-marshes are retained. A small range of high land runs from Chelmsford past Billericay and Brentwood to Chigwell on the Roding: between the Roding and the sea are the high lands of Epping Forest*.

The principal rivers are the Colne, the Blackwater, the Pant, the Chelmer, the Crouch, the Ingerbourn, the Roding, and the Carn.

The Colne rises in the north-west part of the county, near Redgwell, and, by a south-easterly course, passes Halsted and Colchester, about eight miles below which latter town it falls into the sea. It is navigable from the sea to within two miles of Colchester. The source of the Blackwater is likewise in the north-west, near Saffron Walden, a few miles from the borders of Cambridgeshire; it flows in a south-east direction to Coggeshall, lower down, near Witham, receives the Pant (a small stream which rises near Shalford), and unites with the Chelmer near Maldon. The Chelmer also rises in the north-west near Thaxted, passes in a south-east direction to Dunmow, and then on to Chelmsford, where it receives other smaller streams, and continues in a general eastern course to Maldon, above which uniting with the Blackwater, it falls into a wide æstuary. The Crouch has its source about half a mile east-south-east of Billericay, and takes a south-east course to Ramsden Crag, where it is joined by two small tributaries, and thence flows nearly east to Wickford, and on to Hullbridge, where it is navigable at high water: it then flows on by Criksey and Burnham, and falls into the sea at Foulness. It is a tide river for sixteen miles. The Roding rises near Canfield, not far from Dunmow; it then takes a south course, and passes near Chipping Ongar; thence it continues a winding south-west course to Woodford bridge, and flowing in a south and then south-east direction, falls into the Thames at Barking Reach, near East Ham, seven miles from London: it is made navigable to Ilford Bridge. The Ingerbourn is an inconsiderable stream, which rises about a mile and three-quarters east-south-east of Stapleford Abbots, and takes a winding south course to Upminster; thence it flows in a south-west direction to Rainham, and falls into the Thames at Earith Reach. The river Lea separates Essex from Middlesex and part of Hertford. The Stour separates it from Suffolk. All the Essex rivers, except the Crouch and other minor streams, head in the north-west and highest part of the county, and thence diverge to different points.

There are various descriptions of soil in Essex. On the east and south it is most generally marshy, with gravel intermixed in various proportions; on the west there are several kinds of soil,

* See p. 44, on the elevation of Highbeach; and for the correction of an error, see p. 110.

from a tenacious clay upon a substratum of brick earth, to a light thin soil upon gravel. In a district called the Rodings, near Hertfordshire, the soil is a strong, wet loam. Towards the north and the centre considerable difference is observable in the nature of the land, some being light, with a marly bottom, while others have a strong and moist soil. This county is, on the whole, fertile, and possesses some particularly fine land. Scarcely any part is so barren as not to pay for being improved: but in its natural state, in consequence of the tenacious nature of the soil which retains the water, it is nearly unproductive, and requires a dressing of chalk, which renders it less impervious. It is the universal practice of the Essex farmers to apply chalk to their land, which they obtain in the north-west of the county and from Hertfordshire; great quantities are also sent from Kent. On the banks of the Thames, near Purfleet, there are chalk-pits in this county; but except at that part, and a little to the northwest of the county, the natural soil of Essex is wholly destitute of chalk. The greater part is well wooded. Besides the timber growing in the hedge-rows, there are about 50,000 acres in wood and woodlands. In the reign of James II. the forest of Essex extended almost over the whole county. There are now on the south-west, commencing a few miles from London, two forests, Epping and Hainault, near each other, but separated by the Roding. These together cover about 10,000 acres, and contain some noble trees. Fairlop oak, in the forest of Hainault, was of immense size and great antiquity (said to be 800 years old): its extended branches covered a space of nearly 300 feet in circumference. This venerable tree was blown down in the year 1820. Essex is an arable county, and produces grain of the best quality. Agriculture is, perhaps, nowhere better understood than in Essex. Draining, so necessary in some parts, is carried on with great skill. The calves of Essex have long been held in high estimation in the London market. Besides those which are bred here, great numbers are brought from other parts of England to be fattened, principally from Suffolk.

There is but little meadow or pasture ground, except on the salt-marshes, and about Epping, from which tract the finest butter is produced. The waste lands, including forests, are reckoned at about 15,000 acres. The usual crops are wheat, barley, oats, beans, and pease; rye, grass, tares, and trefoil; turnips, rape, and mustard are likewise cultivated. A few acres are appropriated to hops; caraway, coriander, and teasels are likewise grown here. In the marshy districts osiers are considered a profitable cultivation. Fish is plentiful on the coast, and in the various creeks. The climate in general is considered mild: parts of the county, towards the east and south, from the sea and the Thames a few miles inland, are subject to thick autumnal fogs, which often cause ague. Excellent kiln-burnt bricks are made in this county.

Essex is divided into twenty hundreds, and contains three borough towns, 400 parishes, and part of four other parishes. Besides these divisions, it is politically divided into North and South Essex. Each division sends two members to parliament.

The northern division comprises the hundreds of Clavering, Uttlesford, Freshwell, Hinckford, Lexden, Tendring, Winstree, Thurstable, Witham, and Dunmow; the southern division comprises the hundreds of Harlow, Waltham, Becontree, Ongar, Havering, Chafford, Barstable, Chelmsford, Dengie, and Rochford.

Chelmsford, twenty-nine miles east-north-east of London, is the county and the election town of the South division. It consists chiefly of two principal streets. Here are one parish church, two chapels, and two charity schools, a good shire hall, a neat theatre, and a spacious and well-constructed county gaol: the extensive barracks were pulled down some years ago.

Maldon, on the north-east confines of this division, is eight miles east of Chelmsford: it sends two members to parliament. The parish of Heybridge to the north has lately been included in this borough. Maldon is a polling place for the south division.

The town occupies the ridge of a hill on the south side of the Blackwater river: it is principally built in one very long street, another running down from the western end across the river. It has a very ancient church, which is remarkable for its curious triangular tower, of Norman architecture. Here are a grammar-school and an excellent library. The town-hall is a large old brick building. This place has an

import trade, consisting of coal, iron, corn, &c. The port is of considerable importance to the Essex coast, and much of the adjoining country is supplied through it. A new navigation has been made, commencing in the harbour, passing through the village of Heybridge, and meeting the Blackwater beyond Maldon, by which the trade of the latter place has been materially injured. The other populous places in this division are:—

Epping, an irregular town, to the north of Epping forest. The butter of the Epping dairies is much esteemed in the London market. In the district about Epping it has been said that less rain falls than in any other part of England *.

Waltham Abbey, twenty miles west-south-west of Chelmsford. The abbey whence its name is derived is of very ancient origin. All that is now standing of this once magnificent building is a considerable part of the west end and the Ladye Chapel, which is now fitted up as the parochial church. An ancient gate at some distance, partly built with large Roman bricks, marks one of the entrances of the abbey garden. Some very curious wooden arches still exist near the church, probably part of a cloister. Here are very large gunpowder mills on the Lea Canal, belonging to government.

Woodford. At Woodford bridge there is an artificial slate manufactory. In Woodford church-yard a remarkable yew-tree is growing: the spread of its branches occupies a circumference of 180 feet, and its girth four feet from the ground is fourteen feet.

Wanstead. Here was the extensive park and magnificent house belonging to the Tilney estate. The house has lately been pulled down and the materials sold.

Walthamstow has in its neighbourhood numerous large mansions of the London merchants.

Low-Leyton. Here are mills for making sheet-lead.

The four last-mentioned places are contiguous to Epping Forest.

Chipping Ongar, ten miles west of Chelmsford, is a town of great antiquity, situated within the area of an extensive entrenchment, which can still be distinctly traced. On the east of the town are the ruins of a castle built in the reign of Henry II.

* But see p. 105, &c.

Ingatestone, a small town five miles south-west by west of Chelmsford, chiefly consists of one long street. In the church are several elaborate monuments of the Petre family.

Brentwood, ten miles south-west from Chelmsford, is situated on a small eminence on the high road from London to Chelmsford. Here is a free grammar-school, founded in 1557, in which between sixty and seventy boys receive a classical education.

Ilford, six miles and three-quarters north-east of London, on the road to Chelmsford.

Romford, a populous market-town, sixteen miles south-west of Chelmsford and twelve miles from London, consists principally of one long street, forming part of the high road. It has one church, and a dissenting meeting-house. Adjoining to the town are barracks. Polling place for the south division.

Westham. This parish includes many wards, among which is Stratford, four miles east of London, where Bow-bridge, thrown over the Lea, connects it with Middlesex. This bridge was built in the time of Henry I., and is said to have taken its name from being the first bow or arched bridge erected in England after the Conquest. Several large calico-printing manufactories are in the vicinity of London.

Barking, about eight miles east of London, is a small fishing town, situated on the river Roding, about two miles north of the Thames. Barking once possessed a large and rich abbey, said to have been founded about A.D. 677. The abbess of Barking was bound to keep up the embankments along the flat lands in the neighbourhood of Barking. The parish of Barking contains 10,170 acres of land, of which about 1500 belong to Hainault Forest. There is a free school in the town and a spacious workhouse. The church, which formerly belonged to the abbey, contains some curious monuments. There is a beautiful stone gateway near the church, which probably is a part of the old abbey. Near Barking is an old Elizabethan house, which was the residence of the Lords Monteagle of the reign of James I.

At Purfleet, a small place on the north banks of the Thames, about twenty miles from London, and nineteen miles south-west by south of Chelmsford, there are extensive chalk-quarries, and a gunpowder magazine: the powder is deposited in detached buildings, all of

which have been made bomb proof; so that an accident happening to one could not affect the rest.

Tilbury Fort, on the banks of the Thames, opposite to Gravesend, eighteen miles south by west of Chelmsford, was built in the reign of Charles II. It has 106 large guns, besides smaller ones; a double moat, the inner one 180 feet wide, and every requisite for defence. There are means likewise for inundating the whole level on the land side. Near this is a high tower, called the Block House, said to have been built in the reign of Henry VIII., and which was the only fort in the reign of Elizabeth. Here is still shown the ground which her camp occupied during the preparations for defence against the Spanish Armada.

Near the mouth of the Thames, about six miles above Southend, there is an island, called Canvey, which is five miles from east to west, and two from north to south. It contains more than 2600 acres, chiefly appropriated to grazing sheep and cattle. Formerly this island was liable to be overflowed every spring tide, till, in 1622, it was securely embanked, and protected from this periodical inundation. The coast, a few miles beyond, at Southend, opposite the Nore, turns towards the north; some distance from this point the sea forms several islands, beyond which is the mouth of the river Crouch. The largest of the islands are Foulness and Wallsea: the first is about twenty miles in circumference, and contains 5000 acres. Beds of oyster and cockle shells are found beneath the surface, which renders it probable that this island was originally formed by deposits from the sea. Wallsea is less than a fourth of the size of Foulness. The lower part of these islands is grazing land; the higher is under tillage, and very fertile. From the mouth of the Crouch the coast extends due north, to the broad æstuary of the Blackwater, which is the limit of the southern division of the county. On this part of the coast it is said that not more than a century and a half ago trees were growing where the sea now flows; and it is added that seamen still living assert that they have heard their grandfathers talk of trees growing at Bunley Park, now a low sand-bank, at some distance from the coast.

Southend, eighteen miles south-south-east of Chelmsford, is situated at the mouth of the Thames, nearly opposite to Sheerness. This village was little known until the last thirty years. Since that time it has become a watering-place of some repute. Some good houses have been erected, and there are an assembly-room, a theatre, and a library.

Colchester is twenty miles north-east by east of Chelmsford, principally situated on the northern acclivity of a hill, rising from the Colne. It sends two members to parliament, and is the principal town and one of the polling places for the north division of the county. Colchester is a very ancient town, probably a Roman settlement, and was enclosed by walls at an early period of our history. In the tenth century, we find they were repaired or rebuilt, after the defeat of the Danes. Its walls enclosed a parallelogram, having its longest sides running from east to west; its principal street is in that direction; the area which the walls surrounded was about 108 acres. Great care was formerly bestowed on the preservation of the walls; but during the civil wars which ended in the Commonwealth, Colchester sustained a protracted siege of eleven weeks against the parliament forces, and at that time the walls were, in a great measure, destroyed; since which time the inhabitants have not paid any attention to their repair. A castle stands on an eminence to the north of High-street: it is of Norman architecture, and is supposed to have been erected in the time of William I. The outer wall, which is still nearly perfect, is of vast thickness and solidity; it is made of Roman brick, stone, and flint, and was most probably raised on the site, and with the materials of, some Roman building. St. Botolph's priory is a curious and unique brick ruin. St. John's Abbey gate is yet in good preservation. Several Roman antiquities have been dug up near Colchester, and preserved in its museum. A sphinx is, perhaps, the most curious object.

The town is regularly built, consisting of two principal streets running east and west, and several others intersecting these at nearly right angles. It contains twelve parish churches, besides seven places of worship for dissenters. A very ancient castle, which was once a place of great strength, was for a long time used as a house of correction, but it is now given up. There is also a town gaol just built at a cost of 7000*l*. An

hospital, originally founded in the reign of Henry I., and refounded by James I. in 1610, is a fine building. On the south-east of the town are almshouses, and a little nearer in the same direction are the barracks. The other public buildings are the museum, the theatre, and the custom-house. Here is a free grammar-school, founded in 1539. It has two scholarships and a fellowship in St. John's College, Cambridge. There are likewise several charity schools, and one on the Lancasterian plan.

This town was some years back noted for its woollen manufactories, which, however, latterly have much declined. There is also a baize manufacture. The principal business of Colchester and the adjacent parts on the coast is the oyster fishery. The Crouch, the Blackwater, and the Colne, are all breeding rivers for oysters. On the coast, a little to the south of Colchester, which is much broken and indented, there is an island, called Mersey, separated from the main land by a narrow channel, called the Pyefleet, in which there are beds of oysters of an excellent quality. The quantity of oysters taken in a season along the Essex coast is supposed to be above 20,000 bushels. The principal market for oysters is London: but they are also exported to different places on the continent. Many vessels belonging to Essex are also employed in cod, turbot, mackerel, herring, and sprat fisheries.

The island of Mersey is five miles from east to west, and two from north to south. Its soil is rich and fertile, with an undulating surface well wooded, and containing excellent springs of water. Tesselated pavements, and other Roman antiquities, have been found on this island. The number of its inhabitants, in 1831, was 1147.

Advancing along the coast from the mouth of the Colne, is a jutting piece of land, called the Naze; between which and the main land there are two or three small islands. Near this point a watering-place at Walton has just been established, which already rivals Southend, and from its superior sea view and high cliff is thought by many to be far preferable. Farther north, on a point of land at the mouth of the Stour, and at the extremity of Essex, stands

Harwich, a sea-port, thirty-six miles east-north-east of Chelmsford, and twelve miles from Ipswich: it sends two members to parliament.

Harwich is supposed to be of Saxon origin, and its name to be derived from *here*, an army, and *wic*, a town. Some Roman remains have, however, been found here: among these are a tesselated pavement* and several Roman coins. This town does not appear to have attained to any importance till after the Conquest. A castle formerly stood here, and the town was surrounded by walls with several gates: all these, however, are now entirely destroyed. The town chiefly consists of three principal streets. Its harbour, formed by the union of the Stour and the Orwell, is deep and capacious, with good anchorage. The public buildings are the chapel, the town-hall, the free school-house, the custom-house, and the gaol. Here is a dock-yard for building and repairing ships. Several smacks, engaged in the North Sea fishery, belong to Harwich. The Government packets to Holland sail from this port. On a point of land, a little to the east of Harwich, stands Landguard Fortress, erected in the reign of James I. At high water this point is entirely surrounded by the sea.

In the cliffs at Harwich is a stratum of concreted shells, and on the falling in of some of the cliff, animal fossil remains have been found. The clay ooze of some parts of Harwich cliff has the property of indurating into a stone, sufficiently hard to be used in building. The progress of its transformation is distinctly traced in masses, one end of which is ooze, and the other stone.

The other most populous places in this division of Essex are:—

Manningtree, twenty-eight miles north-east by east of Chelmsford, and eleven miles and a half from Harwich, communicates with that port by the river Stour, on the south side of which it stands: it has a considerable trade in iron, deals, corn, and fish.

Saffron Walden, twenty-three miles north-north-west from Chelmsford, obtained its first name from the saffron which used to be largely cultivated round this spot. Walden is derived from the Saxon words *weald* and *den*, signifying woody hill. The town is irregularly built, and not paved; but it is beautifully situated on the side of an eminence, encompassed by a semicircular valley. At the bottom of the hill are the ruins of an ancient castle and on

* Morant's Essex.

its summit is the church, a large handsome building of the fifteenth century, the lower part of which is seen over the tops of the houses. There is also a free grammar-school of ancient foundation, which has an exhibition to Queen's College, Cambridge. It is now converted into a national school, where 140 boys receive daily instruction. Saffron Walden carries on a trade in matting. It is a polling place for the north division.

Thaxted, sixteen miles north-north-west of Chelmsford, is chiefly remarkable for its parish church, which is a very large and beautiful structure, affording a fine example of the late perpendicular English style: it has a fine spire. There are also a school, and several charities.

Halstead, sixteen miles north-north-east of Chelmsford, is situated on rising ground near the Colne. The streets are spacious, and the church handsome. There is a free grammar-school here. A manufacture of baize is carried on, which was once more flourishing than at present.

Braintree, eleven miles north-north-east of Chelmsford, is the election town for the north division. The manufacture of woollen cloth is carried on here: straw-platting also forms an employment of the inhabitants.

Bocking joins Braintree. Several mills for throwing silk are established here, and silk weaving is carried on in the town.

Witham, eight miles and a half north-east of Chelmsford, stands on the north-east bank of the Brain River, a branch of the Blackwater. It is situated on the high road from London to Harwich. This town is of great antiquity, and is said to have owed its origin to Edward the Elder. It is also supposed by some to have been the site of the Roman station Ad Ansam, mentioned in the Antonine Itinerary. Many of the houses are of recent erection. The church is an old Gothic building, containing several ancient monuments.

Population of the market-towns of the county of Essex:—

Chelmsford . . .	5435
Maldon	3831
Colchester. . . .	16,167
Harwich	4297
Manningtree . . .	1237
Saffron Walden . .	4762
Thaxted	2293
Dunmow	2462
Bocking	3128
Braintree	3422
Coggeshall . . .	3227
Hatfield-Broad-Oak .	1825
Witham	2735
Epping	1886
Waltham	2013
Ongar	1205
Ingatestone . . .	789
Billericay * . . .	
Brentwood . . .	1642
Romford	4294
Barking	8036
Grays Thurrock . .	1248
Rayleigh	1339
Rochford	1256
Halstead	4637

Authorities.

Morant's History of Essex.

On the Cliffs of Harwich, No. 291, Phil. Trans.

Excursions in the County of Essex.

Young's Agriculture of Essex.

KENT

Forms the south-east portion of England. It is bounded on the east, and part of the south by the sea; on the west by the county of Sussex; on the north-west by part of Surrey; and on the north by the river Thames, except a small part, consisting of a few acres, which lies on the north side of the Thames, nearly opposite to Woolwich. Kent is, of an irregular four-sided shape: its greatest extent from east to west is sixty-three miles; and from north to south forty miles; the length of its coast, if all its sinuosities be measured, is about one hundred and fifty miles. The area of this county is about 1557 square miles.

Kent is that part of England of which we have the earliest notices; and its history is full of interest for the antiquarian. Its British name, with a Roman termination, was *Cantium:* the Saxons altered this into *Cant†-guar-landt*, or land of Kent. During the Heptarchy, which comprised the period between A.D. 454 and 823, it is supposed that its boundaries were much larger than at present, and that London was included in this kingdom.

With the exception of some low marshy ground, which will be more

* Population included in the adjoining parishes.

† Several explanations are given of the term *Cant*; Camden conjectures it to signify 'a corner,' or a projecting piece of land. Compare Cantire, &c.

particularly described hereafter, the general surface of Kent consists of undulating ground, which, in some parts, being planted with wood, renders the landscape extremely picturesque. Two masses of high land run through the middle of the county. The northern is chiefly composed of chalk and flints, the surface of the soil being a cold flinty clay (see p. 50). Nearly parallel to the chalk range is the ragstone range, running from near Romney Marsh by Kingsnorth, Great Chart, Sutton, Linton, Yalden (where it is interrupted by the Medway), Teston, Hert's Hill, and River Hill, to Wellestreet, on the borders of Surrey. That part of Kent called the Weald, the Saxon name for wood, extends along the borders of Sussex from Romney Marsh to Surrey, and is bounded on the north by the ragstone hills just described. It has a breadth of about ten miles, and is interspersed with numerous eminences. This was formerly an immense forest, inhabited only by hogs and deer; it now contains numerous towns and villages, and some extensive woodlands. (For its southern boundary, see p. 53.)

The principal rivers are the Medway, Stour, and Darent.

The Medway was called by the Britons '*Vaga**, signifying a winding course; the Saxons altered this to Medwege, or Medway. Four principal streams, besides many tributary rivulets, help to form the Medway, (see p. 50.) At Rochester the Medway becomes a broad stream, and being swollen by the tidal water, the great depth and the reaches of the river at this part render it a safe and commodious harbour for the royal navy. About ten miles beyond Rochester, it divides itself into two branches: one called the East Swale, separates the Isle of Sheppey from the main-land; the other branch runs at the opposite side of that island, and at Sheerness, a distance of seventeen miles from Rochester, falls into the wide æstuary of the river Thames. About the middle of the last century, the Medway was made navigable as far as Tunbridge, where, for a short distance, the river separates into five channels, three of which join the main stream below Tunbridge, and the most northern of these streams is navigable half a mile above the others. In consequence of the recent discovery of a very valuable quarry of building stone on the south side of this river, near Penshurst, the Medway has now been made navigable from Tunbridge to Penshurst bridge, which is about five miles farther in the interior. There is a good supply of fish in this river; and it was formerly celebrated for its salmon and sturgeon, but these are now seldom caught.

The river Stour is formed by two small streams, one of which rises on the south-west slope of the chalk hills, a few miles from Hythe, on the coast, and the other near Lenham, a small place between Charing and Maidstone. They unite near Ashford, and thence run in nearly a north-east direction to Canterbury, where the river is divided into streamlets, forming three small islands: they reunite below that city, and pursue an east-north-east course to the Isle of Thanet. Here the river dividing forms the Isle of Thanet; one small branch, formerly called the Wantsum, and sometimes the Nethergong, runs to the north, and empties itself into the æstuary of the Thames; the other branch takes a circuitous course past Richborough Castle to Sandwich, and then turning back and running nearly parallel to itself, enters the sea at Pegwell Bay. Its channel lies for some miles through a wet muddy beach, and at low water its current is discernible even when the surface of the sand is just covered by the flowing tide. This river was formerly so wide and deep round the Isle of Thanet, that it is said vessels of large burthen used to take this course from the Channel to the river Thames. The Isle of Thanet is described by Bede as divided from the main-land by the river Wantsum, "which is about three furlongs broad." Twyne, a writer of the fifteenth century, says, "there be right credible persons yet living, that have often seen, not only small boats, but vessels of good burthen pass to and fro." The bed of the river, however, became gradually choked up with sand; and in the reign of Henry VIII. flood gates were placed at that part where the river branches off, and the waters towards the north were distributed over the land, so that this channel now scarcely deserves the name of river. The other branch is still of some consequence; near Sandwich, the Stour has a depth of eleven feet at spring tides, and is about 150 feet

* Beauties of England and Wales.

broad*. The whole length of the Stour, from the source near Lenham to its mouth, is about 40 miles. The branch from Lenham to Ashford is 10 miles, and the other branch from near the coast meeting it there, is about the same length.

The Darent is an inconsiderable river formed by two streams, of which the larger has its source near Westerham, on the borders of Surrey; it flows by Dartford, and enters the Thames near Earith, five miles east of Woolwich. It has been made navigable for barges to Dartford, a distance of about three miles. On its banks are gunpowder and other mills.

The soil of this county is various. That of the weald of Kent is principally clay with a substratum of marl in some places; in other parts the soil is sandy; and in others again a mixture of clay and sand (called hazel-mould), which is the best soil in the weald. The nature of the soil throughout the county varies extremely, and it is scarcely possible within our limits to give a clear idea on this subject.

It is estimated that on the borders of the Stour there are about 27,000 acres; and on the borders of the Thames, Medway, and Swale, about 11,500 acres of marsh land: the whole of these, together with Romney Marsh, are employed as pasture ground for breeding sheep or fattening cattle. The Romney breed of sheep has long been held in much esteem. The soil of Romney Marsh has been formed by alluvium from the sea, and consists of soft, rich loam, intermixed with sea-sand to a very considerable depth. Clay, mixed with sea-sand and small shells, composes the marsh land of the Isle of Thanet; the arable land in Thanet is light loam on a chalky bottom, which is rendered highly fertile by judicious management†. The soil of the Isle of Sheppey is a stiff strong clay: the marshy part is covered with a rich black mould. In the vicinity of London, towards the north, the soil is gravelly; on the north-west, chalk greatly preponderates with a cold flinty clay. Towards the middle of the west division, as well as in the open parts of east Kent, between Canterbury and Dover, there is a great variety of soils, chalk, loam, hazel-mould, silex, and stiff clay, some extremely fertile. The flat lands, near Deal and Sandwich, are in some parts a rich sandy loam, in others a stiff wet clay. The soil of the low grounds about Canterbury and Maidstone mostly consists of a rich deep loam, with a subsoil of brick earth. This is most favourable to the growth of hops, which are very extensively cultivated in this part of Kent. About 2000 acres are laid out in hop grounds around Canterbury: there are also extensive hop-grounds about Maidstone; and large orchards of fruit, especially cherry-trees. In the east part of Kent, on the high road between Rochester and Dover, are many woodlands; the chief part of their produce is used for hop-poles. On the chalk soils, ash, willow, beech, and hazel flourish; on the stiff clays, oak, birch, and also beech. Within twenty miles of London, on the north side, garden grounds abound, which supply London with vegetables and fruit; on the poor stiff soils near Surrey woad is found a profitable crop; on the chalk lands of East Kent sainfoin is much cultivated. The agriculture of this county is generally good. Wheat, barley, beans, oats, artificial grasses, peas, hops, canary and radish seed, turnips and colewort, garden vegetables, and fruits, are the principal productions.

Kent is divided into five lathes, which are subdivided into sixty-three hundreds, and fifteen liberties, containing 414 parishes, two cities, and twenty-four market towns.

The lathe of Sutton includes the hundreds of Blackheath, Bromley and Beckenham, Lessness, Axton Dartford and Wilmington, Ruxley, Codsheath, Westerham, and Somerden.

The lathe of Aylesford includes the hundreds of Hoo, Shamwell, Toltingtrough, Chatham and Gillingham, Wrotham, Larkfield, Littlefield, Twyford, Tunbridge, Washlingestone, Brenchley and Horsemonden, Eyhorne, and Maidstone.

The lathe of Scray includes the hundreds of Barnfield, Barclay, Blackbourn, Boughton-under-Blean, Chart and Longbridge (including the barony of Bircholt), Calehill, Cranbrook, Felborough, Faversham, Marden, Milton, Rolvenden, Selbrightenden, Teynham, Tenterden, Wye, and Isle of Sheppey Liberty.

The lathe of St. Augustine includes the hundreds of Bewsborough, Blean-

* Captain Boys' Remarks, &c., on the practicability and advantage of a Sandwich or Downs Harbour.

† There are 3500 acres of marsh, and 23,000 acres of arable land in the Isle of Thanet.

gate, Bridge and Petham, Cornilo, Downhamford, Eastry, Kinghamford, Preston, Ringslow or Isle of Thanet, Westgate, Whitstable, Wingham, and the liberties of Canterbury and Sandwich.

The lathe of Shepway includes the hundreds of Aloesbridge, Bircholt Franchise, Folkestone, Ham, Hayne, Hythe, Loningborough, Langport, St. Martins, Newchurch, Oxney, Stouting, Street, and Worth, and the liberties of Dover and Romney Marsh *.

This county is likewise divided politically into eastern and western Kent: the latter includes Sutton, Aylesford, and part of Scray: the former, the remaining part of Scray, St. Augustine, and Shepway. In each of these divisions a Court of General Sessions is held four times a year, and each of them is also represented by two members in Parliament.

The lathe of Sutton is bounded on the west by Surrey, on the south by Sussex, on the east by the lathe of Aylesford, and on the north by the Thames.

The town of Deptford stands at the extreme north-west point of the county, four miles east of London; it is separated from Rotherhithe in Surrey by a small stream called the Ravensbourn. Deptford is a very irregularly built town, containing two churches and several other places of worship. Government has here a victualling-office, and a dock-yard, in which for many years part of the royal navy was built. The yard is thirty-one acres in area, and has a double wet-dock of two acres, and a single dock of one and a half. Here are large workshops of all descriptions requisite for fitting out ships of war, a capacious storehouse, numerous buildings for various purposes, and residences for the superintending officers. In time of war, from one thousand to fifteen hundred workmen have been employed here; but at present there is no business in this dock-yard. No traces are now left of Saye's Court, the ancient manor-house of Deptford, well-known as the residence of the celebrated Evelyn, and the temporary abode of Peter the Great of Russia, during his stay at the dock-yard.

Adjoining Deptford, on the south bank of the river Thames, five miles from London bridge, stands the town of Greenwich, formerly the seat of a royal palace, and the birth-place of Queen Elizabeth. Greenwich Park, which was inclosed in 1433, includes 200 acres of ground. This park contains some fine chestnut-trees, and some of the most extensive views near London: it is open to the public. On an eminence in the park is an Observatory, built in the reign of Charles II., where the Astronomer Royal resides. Close to the park stands an hospital for disabled seamen, fronting the river: it is a noble structure, presenting the appearance of a stately palace, rather than an edifice devoted to charitable purposes. Indeed, its first destination was a palace, intended to replace the old one, and begun by Charles II. who left it unfinished: the more frugal William III. converted it to its present purpose in 1694; but many additions have been made to it since that time. It consists of four detached quadrangular buildings of handsome elevation, and so disposed as to form one entire whole. Two of these buildings are separated from the river by a terrace 865 feet in length; between them is an area 273 feet wide, in the centre of which is a statue of George II. Beyond these, to the south, are the two other structures, with an area between them 115 feet wide: each of them has a colonnade twenty feet high, with an entablature and balustrade. Nearly the whole is built of Portland stone. The front building on the east side is called Queen Anne's building; that on the west is distinguished as King Charles's building. The eastern part of King Charles's building was erected by Webb, from a design by Inigo Jones: the western part was rebuilt in 1814. The structure beyond this to the south is called King William's: part was built by Wren, and the rest by Vanburgh. The Painted Hall which is in this part of the buildings, is a handsome apartment of fine dimensions, with a painted ceiling, and otherwise highly ornamented. It also contains a collection of pictures, mostly on naval subjects, first placed there in 1824; and statues of Nelson, Howe, Duncan, and Vincent. The south building to the east, called Queen Mary's, contains the chapel, which is one of the most elegant specimens of Roman architecture in this country. This handsome edifice affords an asylum to more than 2700 pensioners; about 32,000 out-pensioners are likewise attached to the establishment.

* The remaining Liberties are included in the several hundreds.

Another institution has been more recently founded here, for the education of about 800 boys and 200 girls, children of naval non-commissioned officers and sailors. The church is a fine stone building, erected in 1718: there are also several charity schools. The town of Greenwich has no particular trade or manufacture; a great portion of the lower classes obtain their livelihood on the river, which is here 340 yards wide at low water, and of considerable depth. Considerable progress has been made in the construction of a rail-road between London and Greenwich. It commences at London Bridge and terminates at Greenwich town, proceeding in almost a direct line between the two places, and is only 3¾ miles in length: the present road is 5½ miles. It is of novel construction, being made on arches instead of on the ground. By this means an exact level is more readily obtained than by the usual method. A great part of the road runs through marshy land, where it is found less expensive to drive piles and raise piers than to make a solid hard surface throughout. It is supposed, too, that durability will be another advantage of this mode of constructing a rail-road. The number of arches is to be from 900 to 1000, of 18 feet span each, 20 feet high, and 25 feet wide. At the base of the arches there is a space of 25 feet on each side, bounded by a wall; one side is to be a road-way, the other a foot-path shaded by trees. It is proposed to fit up the arches as shops and warehouses, and the whole will be well lighted with gas.

The town of Woolwich is about three miles from Greenwich, and separated from it by the parish of Charlton. The government dock-yard here is supposed to be the first that was established for the building of the royal navy. It consists of a narrow strip of land on the banks of the river, about a furlong in breadth, and rather more than half a mile in length: it has two dry docks, and the same description of buildings as the yard at Deptford.

The royal arsenal is the grand depôt of artillery, &c. belonging to the army and navy; it contains more than 100 acres of ground, with foundries and factories for the manufacture of various other warlike stores: barracks, &c. All the government ordnance are first proved in this place. Woolwich has also a royal military academy, for the education of cadets; artillery barracks, and marine barracks. On the east side of the artillery barracks are the military hospitals; and on the west side of the same barracks is a piece of water in which experiments are occasionally made with boats. The church stands on an eminence immediately overlooking the dock-yard. Between the dock-yard and the royal arsenal is a rope-walk, an extensive building, about 400 yards in length, where, in time of war, several hundred workmen were engaged in making cables of all dimensions.

The parishes of Deptford, Greenwich, Woolwich, and the greater part of Charlton lying between Greenwich and Woolwich, are now united into one borough, called the borough of Greenwich, which sends two members to parliament.

Dartford, a small town seventeen and a half miles north-west of Maidstone, and fifteen miles from London, is on the road to Gravesend. The first paper-mill in England was erected near this place. It has at present several gunpowder and paper mills, the former on a very extensive scale. The church is a large old edifice.

Bromley, a market town, nine miles from London, on the road to Tunbridge, contains an hospital founded in the reign of Charles II., by the then Bishop of Rochester, for the maintenance of twenty poor widows of clergymen. The palace of the Bishop of Rochester is likewise near this town. Bromley is one of the polling-places for the west division of the county.

Westerham, a market town nineteen miles west of Maidstone, near the source of the river Darent, and on the borders of Surrey. The church is a neat building: over the south door is a monument of General Wolfe, whose remains were brought from Canada and interred here at his native place.

Seven Oaks, fifteen miles west of Maidstone, is a well-built town. The church forms a conspicuous object for some miles round. Here is a free-school, possessing some exhibitions to either university. Near this place is Knowle Park, the seat of the Duke of Dorset.

Lewisham, a populous parish, five miles south-east of London, has a free grammar school, and a handsome church.

The lathe of Aylesford is bounded

on the west by that of Sutton; on the north, by the river Thames; on the east, by the lathe of Scray; and on the south, by Sussex.

Maidstone, the county-town of Kent, is thirty-four miles south-east of London, in a pleasant and fertile valley. It is a very ancient town, situated on the east bank of the Medway, thence called by the Saxons Medwegestad. The borough of Maidstone extends over about 5000 acres and sends two members to parliament. The town is towards its eastern extremity. It is a thriving, busy place, lighted with gas, and has very much increased of late years, several hundred houses having been added to it since 1825. It chiefly consists of four principal streets, which cross each other at the market-place, with smaller ones branching off at right angles. The fine old church, one of the largest parochial buildings in the kingdom, was built in 1377; a new church has been recently erected. Near the parish church stands the old archiepiscopal palace, built about 1350. Besides the churches there are nine meeting-houses for dissenters.

The buildings of the new county gaol extend over an area of thirteen acres, and are arranged with a view to an improved system of prison discipline. Maidstone has a free grammar school, founded in 1562, a proprietary school, and five charity schools, besides Sunday schools, and twenty alms-houses. The town-hall, commercial room, and the theatre are neat, modern buildings. A bridge of five arches crosses the Medway, and forms the continuation of one of the principal streets. A conduit, constructed in 1642, which stands at the upper end of the high street, is one of the principal reservoirs for supplying the inhabitants with water. Another reservoir of more modern date is in a lower part of the town. The water, said to be of most excellent quality, is conveyed by pipes laid under the Medway from an enclosed spring, called Rocky Hill.

The manufacture of linen thread was introduced into this town by the Walloons, in the reign of Queen Elizabeth; and it was formerly carried on to a considerable extent. The only manufacture worth mention, at present, is paper, for making which there are several mills on a large scale; and there is a considerable trade in rags for the supply of these mills. There are also many corn and other water mills. There was once a great distillery at Maidstone. The spirit manufactured here, known as "Maidstone Geneva," was made in such large quantities, that 700 hogs were fattened on the refuse grains*. A great trade is carried on at Maidstone and in its immediate neighbourhood in fruit and hops. Barges of near 100 tons come up to Maidstone, the river being kept up by a lock; otherwise the tide-water would reach to this town. On a slope just above the river is the military depôt. The Kentish ragstone abounds on the west bank of the Medway near Maidstone, whence it is a considerable article of export. It is used for grave-stones and troughs, and has lately been applied to the mending of roads near London. Near Maidstone is Penenden Heath, a large common, where the county meetings are held.

Rochester is a very ancient city, eight miles nearly due north of Maidstone, and twenty-nine miles E.S.E. from London, on the east bank of the Medway. It sends two members to parliament: the boundary of the district having lately been enlarged, now includes the town of Strood and Frindsbury on the west bank of the Medway.

From the rapidity of the Medway in this part of its course, the Britons called this city Dwr-brif; the Romans latinized the name into *Durobriva* or *Durobrivis*. According to Bede, the Saxons altered the title to *Hrofceastre*, from a chief named *Hrof*; and this latter appellation has been corrupted into Rochester. It was formerly surrounded by a strong wall, of which some parts still remain near the centre of the town. The area included by this wall was not more than a quarter of a mile from north to south, and about half a mile from east to west. A number of coins, and various Roman antiquities have from time to time been found in the city and its vicinity.

Rochester consists chiefly of one main street, which is rather narrow, but well paved, and lighted with gas. There were formerly four churches, only two of which now remain. A grammar school was founded here in the reign of Henry VIII. It is under the sole control of the dean and chapter. This school has four exhibitions of five pounds each to four scholars, two in each university. It likewise has four exhibitions

* Ireland's History of Kent, vol. iii. p. 628.

shared with the school at Maidstone, to University College, Oxford. There is likewise a mathematical free school, founded in 1701; and a proprietary school has been established of late years. An alms-house and dormitories for poor travellers, built in the reign of Elizabeth, are situated on the north side of the high street, on the same side with the town-hall. At the south-west angle of the town, rising abruptly from the river, is the castle, which was a strong fortress through a long period of the history of England, until the reign of Edward IV., the last king who paid any attention to its repair; from that time it has progressively gone to decay. The keep is, in its external appearance, still nearly perfect, and exhibits a good specimen of Norman military architecture. In the walls of one of the towers is a hollow funnel, descending perpendicularly to the bed of the river Medway, to which it opens under a pointed arch.

At a little distance east of the castle stands the cathedral, which was originally founded by Ethelbert, about 600 A.D. It is built in the form of a cross, and consists of a nave and aisles, transepts, and a choir, with a low tower of recent date rising from the intersection of the nave and west transept: the architecture of the building is, at least, of four distinct æras; the erection of the choir and upper transept was commenced in the reign of John, and completed in the succeeding reign. The extreme length of the cathedral, from east to west, is 383 feet; west transept, 122 feet; east transept, 90 feet; breadth of nave and side aisles, 73 feet; height of tower, 156 feet. Under the choir are some crypts in very good preservation. Part of the wall of the old monastery still remains. The cathedral library contains a few good old books.

In the latter end of the tenth century a wooden bridge was built across the Medway; in the reign of Richard II. it was replaced by a stone bridge of eleven arches, and about 190 yards in length. This bridge has been repaired and altered at many subsequent dates, and at present exhibits a very respectable appearance. The number of arches has been diminished by throwing two into one; and in the last general repair the bridge was widened, ornamented with a balustrade, and otherwise beautified and improved: its width is now about twenty-four feet.

The oyster fisheries on the several creeks and branches of the Medway were managed under the direction of the mayor and citizens of Rochester, by a company of *free dredgers*, established from time immemorial, who made the necessary regulations to insure a plentiful supply. The oyster fisheries at present are regulated by an Act of 2 Geo. II.

The town of Chatham joins Rochester on the east; its principal street forming a continuation of that city. Parts of the parishes of Chatham and Gillingham, including the town of Chatham and Brompton, have lately been formed into a borough, which sends one member to parliament. There is evidence that this spot was formerly used as a burial-place by the Romans. In excavations, more than a hundred of their graves have been discovered[1]; many other Roman antiquities have likewise been found here. A dock-yard, partly formed by Queen Elizabeth, and further increased by Charles II., stands to the north of the town. This yard, the barracks, an ordnance-wharf, and other military and naval establishments, are at Brompton, and entirely separated from Chatham, being enclosed on the land side by a line of fortifications. The dock-yard, nearly a mile in length, contains four wet docks, sufficiently deep and capacious for first-rate men of war. All the buildings are on a most extensive scale; the principal mast-house is 240 feet long by 120 wide; the rope-house extends 1128 feet in length, and 47½ in width; in this, cables 101 fathoms in length and 25 inches in circumference are made. The machinery used in all the separate departments is of the first workmanship. Here is a duplicate of Brunel's block-making machine, which is never used, but is kept in the best condition, ready for immediate service, if that at Portsmouth should get out of order.

The barracks, which are very extensive, are in three distinct ranges, an upper, a lower, and the artillery barracks. Chatham is defended by the castles of Upnor and Gillingham; the former, which stands on the west side of the river, nearly opposite to the dock, was erected in the reign of Elizabeth: the latter is a strong fortress on the east, completely surrounded by the river.

[1] See Douglas's Nænia Britannica.

Besides the church, there is a chapel of ease, and another chapel for the use of the officers and persons attached to the dock-yard. On the north side of the High Street there is an hospital for decayed mariners and shipwrights, which is a neat and convenient building. This establishment was founded by Sir John Hawkins, and incorporated by charter in 1594. Ten pensioners are supported from the funds of this charity.

Gravesend is on the south bank of the Thames, about thirteen miles N.N.W. of Maidstone, and about twenty-one miles from London. To make a water communication between Rochester and Gravesend, a canal has been cut in almost a direct line, joining the Medway near Strood, by which small craft can navigate between the two places. It was begun in 1800, and has been finished for some years; but the traffic on it is not hitherto as much as was expected. This canal is about seven miles in length; while the navigation by the river is near thirty miles. It begins at Gravesend Reach, nearly opposite Tilbury Fort, where there is a basin and wharf, and terminates near Rochester Bridge in a tunnel, cut through the chalk-hills, two miles and one furlong in length.

Until the last few years all ships were obliged to stop at Gravesend to take their clearances: but this is now done at the Custom-house in London; and Gravesend is, therefore, a less busy town than it used to be when it supplied ships with stores. But its easy access by steam-vessels renders it the resort of a constant succession of visitors from London: more than 5000 persons have been known to land in one day at Gravesend by these conveyances. The inconvenience of not being able to land passengers direct from steam-vessels without the use of small boats has occasioned the erection of a new pier. A stone pier, or wharf wall, was built a few years ago, but the steam-vessels could not come sufficiently near it. The new pier runs out from the stone pier rather more than forty feet into the river, and consists of insulated columns, or piles of cast iron, supporting a floor or stage. This may be more properly called a jetty; the reason of its being thus constructed is, that the bed of the river might not be narrowed and its current impeded. The old town is mean and irregular; but constant additions are being made in better taste, especially in the adjoining parish of Milton. The country around is pleasant, and the air extremely salubrious. The church stands near the river: there is likewise a chapel of ease. The town-hall is situated in High-street. A small theatre was erected here in 1808. Gravesend is one of the polling-places for the county. About two miles nearer to London, on the banks of the river, lies Northfleet: and two miles still farther on, Greenhithe. In both these places there are extensive chalk-pits, the chalk of which is connected with the chalk-hills which form the southern boundary of the Thames marshes. The perpendicular depth of some of the pits is from 100 to 150 feet. Both the chalk and flint are considerable objects of commerce: the former is burnt for lime, and likewise sent to the opposite side of the river into Essex; the flints are exported in large quantities, and supply the potteries of Staffordshire with some thousand tons annually. The flints of Northfleet are sent even as far as China, in the porcelain of which they form one of the materials.

Tunbridge, a market-town, eleven miles south-west by west of Maidstone, on the river Tun, one of the five branches into which the Medway here divides itself, and over each of which there is a stone bridge. It is one of the polling-places for the county. Tunbridge is a quiet old town, principally consisting of one long, wide street. Here are the ruins of a castle, built in the time of William the Conqueror; which, for many subsequent reigns, was maintained as a place of much consequence. At present scarcely any traces are left, except an ancient gateway, flanked by round towers, and the artificial mound on which the keep stood. There is a free grammar school, founded and endowed by Sir Andrew Judde, a lord mayor of London, A.D. 1550, in the reign of Edward VI. The property of the school is now very considerable: there are sixteen exhibitions each of one hundred pounds per annum, appropriated to Tunbridge scholars, payable out of the founder's endowment, besides other emoluments.

Tunbridge Wells* lie between five and six miles from the town of Tunbridge,

* Part of this town is in Frant parish, Sussex; part in the parish of Tunbridge; and part in that of Speldhurst.

on the verge of the county. These chalybeate springs, which are at the bottom of a hollow, were accidentally discovered in the reign of James I.: and since that time they have been a great resort of invalids and visitors in general. The soil is dry, and the situation healthy, though much exposed to cold winds on all the high grounds about the wells. About one mile and a half from the wells are numerous high rocks, rising in some places abruptly, and often separated only by deep clefts: they extend for a quarter of a mile or more in length: the place is planted with trees, and stands close to a little winding brook which separates Kent from Sussex. Tunbridge Wells is famous for its wooden ware, which is manufactured principally of holly, and some of plum-tree, cherry-tree, and sycamore wood. A great deal of foreign wood is also applied to this purpose, especially that which comes from the Guinea coast Here are a large and commodious chapel and charity-schools; likewise a theatre, assembly-rooms, public libraries, &c.

The lathe of Scray is bounded, on the west, by that of Aylesford; on the south, by Sussex; on the east, by the lathes of Shepway and St. Augustine; and on the north, by the sea.

The Isle of Sheppey, already mentioned, is about nine miles long and three broad. At the entrance of the Medway, on the north west point of the island, is Sheerness, fifteen miles north-east of Maidstone, where there is a very large government dock yard, connected with the establishment at Chatham. A well was sunk here in 1781, for the supply of water to the yard; before that time water used to be sent in casks from Chatham. This well is 328 feet deep; 150 feet was dug into clay, and 178 into chalk, when the water rushed up with great impetuosity.

The part of the river off Sheerness is called the Nore. On a point of a sand-bank, about three miles north-east of Sheerness, situated nearly midway between this island and the opposite coast of Essex, there is a floating light.

Queenborough, in the isle of Sheppey, three miles south of Sheerness, is on the site of a castle, built by Edward III., of which there is scarcely any vestige remaining. This insignificant borough, containing only 786 inhabitants, sent two members to parliament, till it was disfranchised in 1832. Here is another well of very ancient construction, which was accidentally discovered in 1725, choked up with rubbish; on being cleared, it was found to be nicely cased with Portland stone, to the depth of 200 feet; it was bored eighty-one feet deeper, when the water rose, and a plentiful and excellent supply has been afforded ever since. It is reckoned that the bottom of the well at Sheerness is 200 feet below the deepest part of the adjacent seas, and that of Queenborough 166.

The north part of the island is on a higher level than the opposite side, which is marshy. The cliffs here abound in pyrites: as early as 1579, the copperas extracted from them became an article of trade; and at the present day, many hundred tons of copperas are annually exported. The cliffs are rented by the copperas-makers, who employ the poor inhabitants to collect the pyrites.

Milton, eleven miles E.N.E. of Maidstone, situated on the declivity of a hill sloping down to a small creek on the south side of the East Swale, was anciently called Middleton, and is of a very remote origin. Excellent oysters are found here in abundance, distinguished as "Native Milton" oysters. The right of the fishery within certain limits is held by a company of *free dredgers*, belonging to the town, the fisheries of which form its only trade.

Sittingbourne, a quiet old town, near Milton, and forty miles from London on the road to Canterbury, consists chiefly of one wide street, which runs along the high road. The church is a spacious building. This is one of the polling places for the county.

Faversham, eight and a half miles north-north-west of Canterbury, is situated a little off the same road, forty-seven miles from London, on a small navigable river which communicates with the Swale; it contains large gunpowder mills established by government. The ruins of a Roman watch-tower and other antiquities discovered at this place give reason to conclude that it was formerly of more consequence than at present. The church is a very ancient handsome building in the form of a cross. Faversham has a free grammar school and two charity schools.

Cranbrooke, thirteen miles south of Maidstone, and twenty-seven miles south-west by west from Canterbury, a polling place for the county, was for-

merly noted for its woollen manufactures, being the first place in England where durable cloths and good mixtures were made. The manufacture of woollen in Kent no longer exists to any extent. Cranbrooke contains a grammar-school.

Tenterden, a market-town, twenty-two miles south-west of Canterbury, and about six miles from the edge of Romney Marsh, contains many respectable houses. Besides the church, which is large and handsome, there are two meeting-houses.

Ashford, twelve and a half miles south-west of Canterbury, is a polling place for the county. It is situated on an eminence near the Stour, just below the confluence of its two branches. The town is well built, and the principal street is wide and well paved. On the south side is the church, an ancient structure, in the form of a cross, with a lofty, well-proportioned tower rising from its centre. Here is a free-school, founded in the reign of Charles I. A stone bridge of four arches crosses the river on the east of the town.

The lathe of St. Augustine is bounded on the west by that of Scray, on the north by that of Shepway, and on the north and east by the sea.

Canterbury, which is a county of itself, and the Metropolitan See of all England, is on the Stour, about fifty-six miles east-south-east of London. There is every reason for supposing that it existed as a settlement of the ancient Britons before the first invasion of the Romans. It was called by the Britons *Caer-caint*, or "city of Kent," and by the Romans *Durovernum*, which, according to Camden, was derived from the British word *Dur-whern*, signifying a swift river, the river Stour at that time running with great rapidity through the city. Many Roman remains are found here; among these, the ancient road to Dover is traced in several places. Canterbury was of considerable size and encompassed by walls even before the sixth century *. At a much later date, when it was still a walled city, the walls formed a circumference of nearly one mile and three-quarters, and were defended by twenty-one square and semi-circular towers. The whole wall was long in a very ruinous state, and little now remains but one part of it, which is almost perfect. The entrance into the city was through six gates, of which only the Westgate is now standing. At the time of the conquest, the city of Canterbury is said to have exceeded London in extent. It is now a quiet city, represented by two members in Parliament. Its liberties have always extended much beyond its walls. The parliamentary boundaries were lately enlarged by the addition of suburbs stretching about three-quarters of a mile towards the east, and of another district nearly two miles towards the west. The boundaries were previously about three-quarters of a mile from east to west, and about three miles and a half from north to south; the city itself is not, however, above five furlongs in the latter direction. The liberties include twelve parishes, and parts of other parishes.

This city consists chiefly of four principal streets, intersecting each other at right angles. The cathedral stands on a level near the north-eastern extremity of the city. Some antiquarians labour to prove that in the third century, an edifice for Christian worship was erected at Canterbury; but it is more probable that it was founded by St. Augustine at the latter end of the sixth century, who then came to England and converted King Ethelbert to Christianity at Canterbury; and the Pope in consequence decreed, that where "the Christian faith was first received, there also should be a primacy of dignity." After many partial destructions and rebuildings of this cathedral, it was rebuilt by Archbishop Lanfranc in the reign of William the Conqueror, and much of the structure as it at present stands indicates the style of that period, although various additions have been made in many subsequent reigns. This edifice, consequently, exhibits the different styles of almost every age; the Norman circular and the pointed style principally prevail. It was formerly surrounded by a lofty embattled wall, with fortified gateways, three-quarters of a mile in circumference. Part of the walls remain and two of the gateways, one of which is supposed to have been raised by Lanfranc. The other bears an inscription, dated 1517. The south and west sides of the cathedral are open to view; but the others are shut out by walled inclosures, consisting of buildings or of private gardens belonging to the surrounding houses. The general form of the cathedral is a cross, terminating

* Somner's Antiquities of Canterbury.

in a circular part at the east end, with two massive towers at the west end, the southern 130, the northern 150 feet high;* from the intersection of the nave and west transepts, a loftier tower rises, which is 235 feet high. The length from the west door to the choir is 214 feet; the length of the choir, from the entrance to the high altar, is 150 feet; and breadth 40 feet; the length thence to the extremity at the west end is 150 feet more; making the whole length of the cathedral, from west to east, 514 feet: the width of the nave and aisles is 74 feet†. The length of the lower transept from north to south is 124 feet, and of the upper 154; the cloisters are a square the side of which is 134 feet. The circular part at the end consists of Trinity chapel and of Becket's crown, which is another and a smaller chapel attached to this in commemoration of his martyrdom. In the middle of Trinity chapel stood the shrine of Becket, which for a long time was a most prolific source of revenue to the church. Lambarde quaintly remarks that, at that time, "the name of Christ was cleane forgotten," and the cathedral was called "the church of St. Thomas the Martyr." Erasmus describes the splendour of this shrine a few years before Henry VIII. enriched his treasury by the plunder of the church‡. There is a grammar-school belonging to the cathedral. Besides the cathedral, there are twelve parish churches within the walls of the city, and three in the suburbs; there are, likewise, six places of worship for dissenters and a synagogue. In the eastern suburbs, a short distance from the precincts of the cathedral, are the ruins of St. Augustine's Abbey, which was formerly a magnificent building, almost equal to the cathedral in splendour. The abbey and its immediate precincts occupied sixteen acres of ground, which were inclosed by walls, the greater part of which are still entire. The fine gateway of St. Augustine, which formed the principal entrance, is now in a dilapidated condition. The remains of the abbey church contain specimens of the best style of the early Norman architecture. It was founded in 598, by Augustine, in conjunction with Ethelbert king of Kent, who handsomely endowed it; at the time of the dissolution, the roofs of the abbey were stripped of their lead, and the whole was suffered to go to ruin, while some parts were pulled down, and the materials converted to other uses. Several modern buildings have been erected within the circuit of the walls. Among these on the south side is the Kent and Canterbury Hospital, founded in 1791, and built by public subscription on the site of part of the ancient cemetery. The Guildhall is a handsome building, standing in the High-street; among the other public buildings, are the Philosophical Institution, containing a large museum, library, &c.; and a small theatre. On the north of the town are spacious barracks for cavalry and infantry. On the south-west side of the city are the ruins of an ancient castle, supposed to be of Norman erection. The principal remains are the keep, which has been built with great strength and ingenuity. Some of the walls are eleven feet in thickness. The north-western division of the castle was some years back converted into a depôt for military stores. About 300 yards from the castle on the south-east, is a high artificial mound close to the city wall. Its origin is usually assigned to the Danes; but some antiquarians refer its formation to a still more remote date. In the years 1790 and 1791, serpentine walks were cut to the summit of this hill, a terrace was formed on the top of the high rampart within the wall, and the whole was planted with trees. This was the public-spirited work of James Simmons, a bookseller and banker of Canterbury. In 1803, a stone pillar was erected on the top of the mount, as a memorial of his generosity in adapting this hill to the public use. There is a small manufacture of worsted in this city, and Canterbury is noted for the preparation of brawn. No manufactures of any consequence are at present carried on here. Many of the poorer inhabitants are engaged in the hop grounds, with which Canterbury is surrounded. Four corn mills are situated on the river Stour, one of which is the largest in Kent; there is, however, but little trade in this city. Its civil government is now vested in a corporation, consisting of a mayor, six aldermen, and eighteen councillors. A sheriff is to be elected annually.

The communication from Canterbury to London has been lately much facilitated

* One of these towers is now (1836) rebuilding with stone from Caen in Normandy, of which the whole cathedral is constructed.

† Gostling's Canterbury.

‡ See Britton's Canterbury Cathedral. Stowe's Annals.

by a rail-road laid down between Canterbury and Whitstable, six miles distant, and the nearest sea-port to Canterbury. This rail-road consists of two inclined planes, one of which passes through a tunnel about half a mile long. The carriages are drawn up one plane by a stationary engine, and descend with considerable rapidity down the other. Whitstable is at present but a small village, with 1926 inhabitants. The large copperas works established near this place have been discontinued for some time. Herne Bay on the same coast, three miles east of Whitstable, has lately been built upon with the view of making it a place of resort for the inhabitants of the metropolis. A new pier has lately been made here, from which steam-boats regularly run to London.

The Isle of Thanet is about nine miles in length, eight miles in width at the broadest part, and four miles at the narrowest. At North Foreland, its extreme eastern point, a light-house is erected, commanding a most extensive sea view, both on the north and east. The Reculvers on the west side form the limit of the Isle of Thanet. This station is the Regulbium of the Romans, which defended the northern entrance of the haven, then formed here by the west branch of the Stour already described. The sea is constantly encroaching on this part of the Kentish coast, and on all the coast of the isle of Thanet. The castle erected at the Reculvers by the Romans was of a square form, with the angles rounded off, and surrounded by a ditch. Leland, in his Itinerary, written in the middle of the sixteenth century, describes it as scarce half a mile from the shore; it is now on the brink: indeed, the north angle, and about one-third of the west side, have been entirely destroyed by the sea. Several houses situated here have fallen, and even within the last twenty years the sea has committed much devastation. A vast number of Roman antiquities and coins, from the time of Julius Cæsar to Honorius *, have been found at this place, and are still found.

West of North Foreland is Margate, formerly an inconsiderable fishing town, but now a place of some note, owing to the numerous visitors in the summer season, who come from London by means of steam navigation. The older part of the town stands in a low situation along the shore, and consists of a number of narrow, irregular streets; but the new part contains wide and tolerably good streets and squares. Besides the old church, there is a new church, of recent erection, which stands on an eminence east of the town, and five other places of public worship. There are a theatre and fine assembly-rooms, a sea bathing infirmary, &c. This town has a stone pier and jetty: the former was rebuilt and enlarged about twenty years ago, at an expense of 90,000*l*.

Ramsgate, to the south of North Foreland, fifteen miles east-north-east of Canterbury, likewise owes its prosperity to its visitors *. It has a handsome stone pier, which makes a capacious harbour for vessels of large burden. In the time of Henry VIII. a pier for shipping existed here: but it did not afford secure shelter. In the year 1749 the construction of the present pier was commenced: but, after being completed according to the first design, the port became so choked up with mud that a different arrangement was required. In 1788, by the advice of Smeaton, the pier was extended 400 feet in length, making the east side 2000 feet, and the west 1500 feet in length, a cross wall was erected between the two piers, fitted with sluices, and forming two harbours, of which the inner one can be entirely shut out from the sea; this inner port is capable of receiving vessels of 400 or 500 tons burden. A light-house of stone stands on the west side, at the end of the pier. The end of the east pier was rebuilt and much extended (100 feet) in 1812; before that addition the area of the harbour was nearly circular, comprehending forty-six acres: it is now, of course, in consequence of that alteration, somewhat of a different shape, and embraces a larger area. The whole is chiefly constructed of Purbeck and Portland stone. A granite obelisk 50 feet high near the harbour, commemorates the embarkation and landing of George IV. here in 1821. The old parish church of St. Lawrence stands about half a mile from the town; there is also a chapel of ease, and several meeting-houses. Ramsgate has been recently made a separate parish.

* Battelye's Antiquitates Rutupinæ.

* In the time of Queen Elizabeth, Margate contained 108 houses, and possessed only fifteen small vessels, the largest eighteen tons burden. Ramsgate then contained only twenty-five houses; and even in 1772 the number of its inhabitants was below 500.

from St. Lawrence; and a new church with a handsome tower has been erected, which forms a conspicuous object all round the town.

Broadstairs (originally Bradistow, *i. e.* Broadplace) is another watering-place, about two miles north by east from Ramsgate.

Minster, four miles and a half west of Ramsgate, contains the oldest church in the Isle of Thanet.

Sandwich, eleven miles east of Canterbury, was in ancient times a harbour of importance; but for some centuries past it has been choked up with sand, and the sea has gradually receded, leaving more than a mile of low barren sand-hills and salts between the town and the sea. Sandwich is one of the cinque ports*. It is washed on the north by the river Stour, which here makes a great bend, and is surrounded on every other side by a dyke, the remains of its old fortification. It is now a dull, deserted town, with little prospect of improving its condition. A scheme was once on foot for straightening the course of the river Stour, by a channel to be cut directly across the sand-hills which separate Sandwich from the sea. This town contains three ancient churches, one of which is of Saxon or early Norman origin. About a mile from Sandwich are the large walls of Richborough Castle, one of the most complete specimens of Roman building in the island. The walls of three sides of the square are still standing, and in some parts are more than twenty feet high. Sandwich has a grammar school, founded in the reign of Elizabeth by Roger Manwood, afterwards one of the barons of the exchequer.

Deal, a cinque port, fourteen and a half miles east by south of Canterbury, was formerly a place of defence, fortified by three castles: Sandown Castle, on the north: Deal Castle, in the centre; and Walmer Castle, on the south. Walmer is a parish adjoining to Deal. The old village is about a mile from the sea-coast; modern Deal lies along the coast, in three principal streets, which are long and narrow; it is about four miles from Sandwich. Deal is a place of considerable traffic during war time, when the Downs are filled with shipping: at present it is in a very low condition. The houses are mostly of an inferior description, and the whole town dull and disagreeable. The privilege of sending two members to parliament, hitherto possessed by Sandwich alone, is now shared by the parishes of Deal and Walmer. Here is a custom-house, and naval store-house, and at a little distance from the town an extensive naval hospital. About four miles from Deal are the Goodwin Sands, which run nearly parallel to the shore for the space of ten miles. The nature of these sands is very peculiar: the dry parts, at low water, are quite hard; but as soon as the tide covers them, they become soft and loose. The form of the north part of the bank is triangular, about three miles and a half long, and two miles and a half broad: this part is six miles from the coast. The southern part is three miles and a half long, and only one mile broad in its broadest part; at its extremity it terminates in a narrow point, which is only three miles from the coast. The space between the coast and the Goodwin Sands is called the Downs, in which the depth of water is from eight to twelve fathoms. Between Deal and Dover is the South Foreland: the North and South Foreland are about seventeen miles distant, in a direct line. From Deal a line of high cliffs, abounding with samphire, runs along the shore reaching to Folkstone.

Dover, fifteen miles south-east of Canterbury, is a cinque port, and sends two members to parliament: it is a very thriving place, and building-land is in great request. The site of the town is in a valley, in a kind of amphitheatre of hills, through which a small stream flows. The western side, called the old town, is formed of irregular and narrow streets; and here the principal business of the port is carried on. The new town, which is built chiefly for the reception of occasional visitors during the bathing season, stands under the castle cliffs on the east. Dover has two parish churches, a new church, and three meeting-houses, a free school, a charity school, and a military hospital of modern erection; also a theatre, and assembly-rooms. This is a very ancient port, the Dubris of the Romans, and called by the Britons Dwffyrrha, which signifies a steep place. The castle stands on a hill, which, towards the sea, presents an abrupt front of chalk upwards of 320 feet high. Some writers assert that a castle was built here

* The cinque ports are five ports incorporated by Edward the Confessor or William the Conqueror (probably the former), who granted them certain privileges; two others (called the ancient towns of Winchelsea and Rye) were at an early date added to their number.

before the time of Cæsar; others suppose that he was the founder of Dovor Castle. In the reign of Edward the Confessor, it was strengthened by additional works; in that of Henry II. the keep was constructed, and many additions have been made at subsequent periods. In its present state, Dovor Castle consists of two courts, a lower and an upper one, defended by deep, broad, and dry ditches, from which communications with the inner towers have been made by subterranean passages. The lower court is surrounded by an irregular wall, called the curtain, except on the side next the sea; the curtain is flanked at unequal distances by a variety of towers of different shapes, the workmanship of different ages. During the last century many additions were made to render this place still more secure, and to fit it as a place of defence. Various subterranean communications and apartments were formed for the reception of soldiery, and sufficiently capacious to accommodate 2000 men. This fortress occupies about thirty-five acres of ground. Here is the large brass cannon cast at Utrecht in 1544, and presented by the States to Queen Elizabeth; it carries a twelve-pound shot, and is twenty-four feet long. All the neighbouring heights are likewise fortified. On the southern hill at the other side of the town there are extensive works, consisting of a fortification, lines, and redoubts and also large barracks.

The construction of a pier, running eastward to the sea, was commenced here in the reign of Henry VIII., and finished in the time of Elizabeth. Several jetties have been erected towards the east, and many improvements and additions have since been made, and are still in progress. Within a short distance from the town there are several large paper-mills.

Dovor is the nearest point on the English coast to France; the sea between Dovor and Calais is called by the English the Straits of Dovor, and by the French La Manche. The distance between Dovor and Calais is twenty-three miles, but Cape Grisnez on the opposite coast is still nearer, being only eighteen miles and a half from Dovor. Steam-packets pass daily between this place and Calais.

At St. Margaret's Bay, near Dovor, very fine lobsters are caught in great abundance.

The lathe of Shepway is bounded, on the east and south, by the sea; on the west, by the lathe of Scray; and on the north, by that of St. Augustine. Hythe, fourteen miles south of Canterbury, one of the cinque ports, and the principal town in the lathe, is now an inconsiderable place, but its liberties extend over a large space. It stands near the eastern extremity of Romney Marsh, and consists chiefly of one long street parallel to the sea-coast, which is about three-quarters of a mile distant. Its privilege of sending a member to parliament is now shared by Sandgate and Folkstone.

Sandgate is a small watering-place, about three miles east of Hythe. About two miles north-east of Hythe is Cheriton, a small village, in which there is an extensive paper mill, turned by a stream which flows from Hythe, and on which there are several corn-mills. A mile north of Hythe there are the ruins of an ancient castle.

Folkstone is about two miles from Sandgate. It was formerly a prosperous fishing town; but at present everything about it denotes inactivity and decay: in 1767 the fishery at Folkstone employed forty-nine vessels of 2650 tons, and about 800 men. There are now only twenty vessels, of which the tonnage is 550 tons, employing only 200 men. *

A canal was made here for military purposes during the time of the last war, by an act passed in 1807. It begins near Sandgate, passes Hythe, skirts Romney Marsh on the north, and enters Sussex, terminating at Cliffend, after a course of twenty-three miles. It is from seventy-two to sixty-two feet wide at the surface, and from thirty-six to thirty at the bottom, and its depth is nine feet. The Martello towers, built for the protection of the coast at the time when an invasion from the French was apprehended, extend along the Kentish coast, from beyond Folkstone southwards to Dymchurch; they are generally at intervals of one-half or three-quarters of a mile from each other. Romney Marsh is a large tract of land, about fourteen miles in length and eight in breadth, containing about 44,000 acres, which have been gradually reclaimed from the sea. These dimensions include Walland and Denge Marsh, which lie towards the south, rather lower than Romney Marsh, but are always

* Boundary Report.

confounded with it; they comprise about 20,000 acres. Part of Romney Marsh, called Guilford Marsh (not included in the estimate just given), consisting of 3265 acres, is in Sussex. At Dymchurch, on the coast, about five miles from Hythe and four from New Romney, there is an embankment, called Dymchurch Wall, which preserves these marshes from the sea. Its perpendicular height varies from fifteen to twenty feet above the level of the marshes; at the side next to the sea it has a slope of 100 yards. The width of the top varies from fifteen to thirty feet; its length is nearly three miles. The drainage of the marsh is effected by sluices passing through the banks, so contrived as to allow the water to pass off at low tide; its return is prevented at high tide by gates opening out into the sea, which the sea at high water closes.

Old Romney was a very considerable place in the time of Edward the Confessor; but the sea withdrawing, left a great portion of land bare. In consequence of its being no longer a sea-port, it ceased to be of importance, and gradually fell into decay.

In the reign of William the Conqueror a new haven, called New Romney, twenty-one miles south by west of Canterbury, was made near to the sea, about one mile and a half distant from the old town. Though one of the cinque ports, this town also has long ceased to be a port. So early as the reign of Edward I. great part of it was destroyed by a violent tempest, and its haven became choked up. In the reign of Henry VIII. the sea had retired from it nearly two miles, and at present it stands in Romney Marsh, one mile and a half from the sea. In the time of its prosperity it had five parish churches and a priory. One of these alone remains, which is of very ancient structure, consisting of three aisles and three chancels, with a square tower at its western extremity. Romney is one of the polling-places for the county.

Population of the cities and market-towns of Kent.

Canterbury (city)	13,649
Rochester (city) with Chatham	27,321
Maidstone	15,387
Sheerness	7983
Queenborough	786
Sittingbourne	2182
Milton	2233
Faversham	4429
Margate	10,339
Ramsgate	7985
Sandwich	3136
Deal	7268
Dover	11,922
Folkstone	4296
Hythe	2287
New Romney	983
Ashford	2809
Charing	1237
Cranbrook	3844
Tunbridge	10,380
Westerham	1985
Seven Oaks	4709
Bromley	4002
Dartford	4715
Gravesend	5097
Woolwich	17,661
Greenwich	24,553
Deptford	19,795
Tenterden	3177
Lenham	2197
Lydd	1357
West Malling	1369
Goudhurst	2758

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Boys' Collections for a History of Sandwich.

SUSSEX

Is bounded, on the south, by the English Channel; on the east, by Kent; on the north, by Surrey and part of Kent; and on the west, by Hampshire. Its greatest length, from east to west, is seventy-three miles; from south to north, twenty-six miles. The length of sea-coast is about seventy-six miles, from a point about two miles east of the mouth of the Rother to the channel which divides Hayling island from the mainland. Its superficies is about 1463 square miles. During the Saxon heptarchy, Sussex constituted, with Surrey, a distinct state, under the name of South-Seaxna-rice. Some parts of this county, on the north, are fertile, and thickly clothed with the finest

wood: the ground occupied by woodlands is now computed at 170,000 acres. That part on the north-east in which there is much forest land, is called the Weald. A range of chalk-hills, called the Downs, runs nearly parallel to, and not far from, the coast, from Beachy Head to within a few miles of Petersfield, Hampshire*: they contain small valleys and depressions, in which good corn crops are raised. Near the coast is some good grazing land for sheep on the South Downs, or that part of the range between Beachy Head and Shoreham.

The principal rivers in this county are the Arun, the Rother (a branch of the Arun), the Adur, the Ouse, the Lavant, the Cuckmare, and the Rother, which forms for a small distance the boundary between Kent and Sussex. They are all small. The Lavant, which is the smallest, rises near East Dean, encircles Chichester, except on the north, and thence falls into the sea. It is about twelve miles in length, and is navigable only a very little way from its mouth, near which fine lobsters are found. The Arun rises on the eastern side of the range which contains Hind Head (having an elevation of 923 feet above the level of the sea), and at a short distance north of Haslemere, in Surrey: after taking an easterly course for some miles, it enters Sussex at Aldford, about six miles north-west of Billinghurst, and continuing a very winding course in a south direction by Stopham, Pulborough and Grantham, cuts through the chalk downs, passes Arundel, and falls into the sea at Little Hampton, after a course of about forty miles. This river abounds in mullet, trout, and eels: the first are found in large shoals as far up as Arundel, where it is said they find a particular kind of weed. The Arun is made navigable as far as Arundel, from which place it has also, partly by artificial cuts, and partly by following the natural channel of the river, been made navigable as far as New Bridge, near Billinghurst, where it is joined by the Surrey and Sussex canal. The length of the river and cuts as far as it is navigable is twenty-six miles and a quarter. This river has another branch, which rises in St. Leonard's forest, and taking a very winding westerly course, passes near Horsham, and joins the Arun about two miles and a half north of New Bridge. The Rother rises in Hampshire, and, taking a south and then an eastern direction, passes by Midhurst, and joins the Arun at Stopham; it has been made navigable up to Midhurst. The navigable part of the Rother is about fifteen miles, in which distance there are eight locks. The Surrey and Sussex canal connects the Arun with the Wey, near Guildford, in Surrey. This canal crosses the Arun several times in its course. The Arundel and Portsmouth canal joins the Arun at Ford, about half way between Arundel and Little Hampton, between two and three miles from the mouth of the Arun, and runs in a line of rather more than eleven miles to Chichester harbour; the navigation is then continued between the coast and Hayling and Thorney Islands to Hampshire, where the peninsula of Portsea is crossed by a cut of two miles and a half. This canal was opened in 1823, by which and the Arun river, the Surrey and Sussex canals, the Wey, and the Thames, an inland navigation is established between Portsmouth and London, which is accomplished in four days. It is, however, but little used. A branch of the Arundel canal, between one and two miles in length, runs to the city of Chichester.

The river Adur rises about four miles south-west of Horsham, and taking a south direction, passes West Grinstead, Steyning, and Bramber, cutting the chalk range, into Shoreham bay, after a course of about twenty-four miles. This river was made navigable in 1807, for barges to Binesbridge, about fourteen miles from its mouth. The coast at Shoreham is flat, and an immense quantity of shingle and other material has been thrown up between the land and the sea. Between this natural embankment and the coast a long, narrow channel or bay has been formed, several miles in length, and parallel to the sea, into which the Adur flows. The Ouse has two sources, one in the forest of St. Leonard, between Horsham and Cuckfield; the other to the east, in the forest of Ashdown. These streams join at Isfield between two and three miles south-west from Uckfield, whence the stream has a southern course to Lewes, where the river cuts the chalk, and enters a low wet valley: it falls into the sea at Newhaven. This river is navigable about five miles beyond

* See p. 52 for the hills of Sussex.

Lewes: its course is about thirty-four miles. The Cuckmare has several sources: the most eastern branch rises at Hatfield Park, and the most western about two miles west by north of that place. They join near Hellingley, whence the river taking a winding south by west course, falls into the sea about four miles west by north from Beachy Head. Its whole course from its western source is about twenty-four miles and a half. The Rother, which for a few miles separates Kent from Sussex, rises at Rotherfield, and falls into the sea at Rye. It is navigable through the haven of Rye to Robertsbridge, a distance of nineteen miles; a navigable branch, two miles and a half in length, extends from Rye to Winchelsea.

The Weald part of Sussex contains numerous ponds, in which large quantities of fish, chiefly carp, are bred; tench, perch, eels, and pike are likewise caught. In the eastern part of the Weald limestone of fine quality is got: it is capable of receiving a high polish, and is used for chimney-pieces, &c. Iron-stone abounds in this county: fuller's earth is found at Tillington, and red ochre at Graffham, Chidham, and other places on the coast.

Between the eastern extremity of the South-Down hills and the coast of Kent, there is a large tract of marsh land adjacent to the sea; the soil of this part is decayed vegetable matter, intermixed with sand and other sea deposits. Where the chalky land terminates, the soil becomes, towards the north, gravelly; then loam preponderates; and the weald, or wood to the north, is usually clay, mixed with sand. The climate of Sussex is generally mild, and favourable to vegetation. On the South Downs it is bleak.

Between these Downs and the sea, as at Brighton, the winter season is usually mild, because this situation is protected by the hills from the north and the north-east winds. This remark applies also to the strip of low land which commences at Brighton, and grows wider between the hills and the sea as the hills advance westward. Wheat, oats, barley, clover, peas, tares, turnips, potatoes, and beans, are the principal crops of Sussex. In the east part of the county, hops also are grown in considerable quantities; on the west, there are large and productive orchards. The Sussex breed of cattle is well known to graziers; it is distinguished by a deep red colour, fine hair, small head, and transparent horns, running horizontally, and turning up at the point. The cows of this breed do not produce much milk, and therefore there are few dairies in Sussex; but the flesh of the Sussex cattle is considered of the best quality. From the South-Down sheep the best mutton for the London market is obtained. This breed is now very much dispersed through other parts of England: it is known by its small head, and want of horns.

Sussex is divided into six parts, called Rapes. Proceeding from west to east, they are Chichester, Arundel, Bramber; Lewes, Pevensey, and Hastings. It is likewise politically divided into west and east divisions, each of which is represented by two members. Sussex contains 295 parishes.

The city of Chichester, in the rape of Chichester, fifty-six miles south-west by south of London, is a bishop's see: it is a very ancient place, and supposed to be the Roman Regnum. The roads to Portsmouth, Midhurst, and Arundel from Chichester, are considered to be of Roman origin. The city is about five miles from the sea-coast on rising ground; it is well-built, lighted, watered, and drained. The principal streets are wide, and contain many large houses. The whole is surrounded by an old wall, still kept in repair and nearly a mile and a half in circumference. This wall was originally Roman, and has a mound of earth round the inside of it, in the manner the Romans were accustomed to construct these works. Little remains of the wall originally erected by the Romans, but much of that which is at present standing is evidently formed of the materials of the original walls; and the eastern gate, which was taken down in 1783, afforded decided proofs of Roman architecture; two other gates, on the north and south, were removed at an anterior date. There are very fine elm trees on the mound, some of which were planted in 1720; and two public walks close to the walls. A cathedral, mostly built of wood, was founded here in 1108. The architecture fixes the date of the present cathedral about the middle of the thirteenth century. It has a tower and spire 300 feet high. This edifice is in the usual form of a cross; its length, from east to west is 407 feet; from north to south 150 feet. The transept is 129 feet long, and 34 feet wide; and the nave and aisles 97 feet wide. The north transept is now

used as a parish church. The cathedral contains nine monuments by Flaxman. A tower, 120 feet high, a few yards to the north-west of the cathedral, is traditionally known as Ryman's tower, and is noted for its massive walls. The palace of the Bishop of Chichester is in the city. The other public buildings are the guildhall, custom-house, market-house, and market cross, in its form said to be unique. There is also a small theatre. Chichester has at present no manufactory: but it has a large beast market, and a great quantity of corn is exported through it to London and the west of England. The privilege of sending two members to Parliament has lately been extended to part of the neighbouring district. Seven miles south of Chichester is Selsea Bill, the point of a peninsula, formed by an inlet of the sea called Selsea harbour. Here was formerly a considerable town, with a bishop's see, but it was swallowed up by the encroachments of the sea, and the bishopric was removed to Chichester; it is now only a small village.

Bognor, six miles south-east of Chichester, is a village on the coast, which has of late years become a watering place of some resort. There is a neat chapel, hot and cold baths, and an assembly room.

Midhurst is a small town, eleven miles north of Chichester; there were formerly iron works in its vicinity, which were abandoned from the expensiveness of fuel. It sends a member to parliament; the limits of the elective franchise have been extended from one to three miles on every side. Midhurst has a small free grammar-school.

In the Rape of Arundel is Arundel, ten miles east of Chichester, a small town on the side of a hill, rising above the west side of the river Arun: it consists mostly of two principal streets, one running from north to south. On the north-east side of the town stands Arundel Castle, repaired and nearly rebuilt in the beginning of this century, by the late Duke of Norfolk. It is now partly restored to its former magnificence; the ancient style of its architecture has been maintained, and it still presents the appearance of a noble baronial castle. Its original foundation is uncertain; but it is supposed to date about the time of Alfred. In the civil wars of the seventeenth century, this castle was one of the scenes of contest, in which it was so much injured, as to be left little better than a mass of ruins. The only parts of the ancient building remaining, are some of the walls and the keep. Arundel is one of the greatest corn-markets in Sussex. It sends one member to Parliament, and is one of the polling places for the county. The elective franchise has lately been extended to the whole parish, as well as to those of Leominster and Little Hampton; the village of Little Hampton, on the sea-coast, about four miles from Arundel, is now a small watering-place.

Petworth, a market-town, twelve miles north-east by north of Chichester. The streets are irregular, but the town is in general well built. It contains a stone church, a handsome market-house, a charity school, and several other charities. In the quarries of Petworth, the marble lies from ten to twenty feet beneath the surface, and is about nine or ten inches thick. Petworth is a polling place for the county.

In the rape of Bramber are the following towns:

Old Shoreham was once a place of some consideration; the only relic of its former importance is its church, of which very little remains.

New Shoreham, twenty-two miles east of Chichester, is on the east bank of the river Adur, about six miles from Brighton. It is a fishing port, and carries on a small coasting trade; its principal business, however, is ship-building. It has a tide harbour, which runs along and beyond the town, parallel to the sea, and is about two miles in length, communicating with the sea eastward of the town. At ebb-tide, it has not more than three feet of water; in common tides about twelve, and at the highest tides eighteen. This harbour, though rendered incommodious, and dangerous by the frequent shifting of the sand, and by a long flat rock visible at low water, is the best on this part of the coast, and is therefore frequented by ships of considerable burden. Shoreham has an old church with a square tower, which exhibits specimens of the round and pointed arches united. It consisted of a nave, transept, and choir, and within has still much architectural beauty; but the part to the westward of the tower is now entirely destroyed, and it is only the east end which is at present fitted up and appropriated to public worship. The old bridge over the Adur is higher up than the town,

and built of wood. A fine new chain bridge has lately been built over the Adur at the town by the Duke of Norfolk, which shortens the distance between Brighton and Worthing. This town has a custom-house. Shoreham was long a borough, represented by two members in Parliament; but, in consequence of the discovery of corrupt practices, certain inhabitants of the town were disfranchised, in 1771, and the privilege was extended to the whole rape of Bramber.

Worthing, eleven miles west of Brighton, was likewise once only a poor fishing village; but it has now become a fashionable watering-place. A great part of the modern buildings face the sea; the oldest part of the town extends about half a mile inland. There is a handsome chapel and a meeting-house, a theatre, several libraries and baths. The coast east and west of Worthing is low and flat.

Horsham, twenty-five miles north-east of Chichester, a market-town and borough, is situated on a branch of the Arun, which is here a very inconsiderable stream. It sends one member to Parliament, a privilege now extended to the whole parish; it is, likewise, one of the polling places of the county. This town is irregularly and poorly built; many of the houses are of wood, and seldom exceed a single story in height. It is neither lighted nor watched, and very indifferently paved. On the north, beyond the town, some better houses have been built. Besides the church, there are four other places of worship. A free grammar school was endowed by Richard Collier in 1540, for sixty boys; there are, likewise, a mechanics' institute, a Lancasterian school, a national school, two infants' schools, and two Sunday schools. There is a good market-house and town-hall. The county gaol is at the south entrance of the town.

Steyning, twenty miles east by north of Chichester, is a market-town at the foot of a high hill near the river Adur. It consists of four meanly built streets. The church is a very ancient building. Here is a free grammar school. Till recently, this inconsiderable place sent two members to Parliament, as well as the borough of Bramber, a small place, only one mile from Steyning, with about ninety-five inhabitants. Both these towns are now disfranchised.

In the rape of Lewes, on the south-east, is the town of Lewes, thirty-four miles east by north of Chichester, about forty-nine miles from London, and seven from Brighton. Lewes is the county town, a borough, and sends two members to Parliament; the parliamentary limits have been much enlarged. The town is of very ancient date. The greater part is situated on a declivity, on the west side of the Ouse, which here cuts through the chalk, and flows in a low valley. A part of the town is on the east side of the river, and immediately below the chalk hills, which rise abruptly from the low and narrow slip along the Ouse. On the north-west of the town are the remains of an ancient castle, which was once strongly fortified; vestiges of entrenchments also are still visible. The keep of the castle, which is in tolerable preservation, has been repaired by the present proprietor, and the summit of the mount laid out and planted. One gateway is nearly entire, part of which exhibits a specimen of Norman architecture and part of the more ornamented style of the thirteenth century. There are also, on the east of the town, some slight remains of a very ancient priory, which was demolished by order of Henry VIII.; its walls inclosed an area of more than thirty-two acres. The house of correction was built about 1794 on the plan of Howard, the philanthropist. This town contains six churches and seven dissenting meeting-houses. There is also a free grammar school. The shire-hall is a handsome modern building. About a mile from the town are barracks. The river is navigable up to Lewes and a few miles higher.

To the south-west of Lewes, twenty-eight miles east of Chichester, and forty-six miles south of London, is Brighton, now a large and populous town, which sends two members to Parliament. Not a century back, Brighton was a small fishing town, which has risen to its present prosperity in consequence of the visits and residence of opulent families. Notice was first drawn to it by Dr. Richard Russell, who established himself here in 1747, and wrote on the salubrity of the place, and the efficacy of sea-bathing. The town extends from east to west along the coast for about three miles, and about a mile towards the north, along the London road; it is regular and well built, and some of the more modern houses are in a style of elegance, and on a scale of magnitude surpassed only by some

of the best private houses of the metropolis. The town is well lighted with gas. A royal residence, called the Pavilion, stands near the north-west corner of the Steyne, which is a fashionable promenade. This palace was begun to be erected in 1784 by the Prince of Wales, afterwards George IV., whose residence here contributed much to the rise of Brighton. The salubrity of the climate, and the short distance from London, are the great recommendations of Brighton. The old parish church is on the north-west on rising ground: there are, also, the royal chapel, a fine new church, and several chapels of ease, besides twelve dissenting places of worship, and a synagogue. Brighton has a mechanics' institute, several free-schools, a school of industry, and many other well-conducted charitable institutions. On the east is a park, furnished with handsome rooms, in which invalids are supplied with artificial medicinal waters of every description, supposed to have the same virtues as the waters which they are made to imitate. A well has been sunk in the park to the depth of 600 feet, but no water has been obtained. About a mile from the town is a mineral spring. There are hot and cold baths of different descriptions in the town. The most interesting object in Brighton is the Chain Pier, which is 1134 feet long. It was erected in 1823, under the superintendence of Captain Brown, to afford facilities for the embarkation and landing of passengers, to and from the steam-packets and other vessels, there being no natural port, and no convenient depth of water close to shore. The foundations of the pier are formed of four clusters of piles, standing about 260 feet apart: the last and head pile is made larger and stronger than the others, and supports a platform standing out into the sea at right angles to the principal one. Below this platform, there are galleries and flights of stairs to facilitate the embarkation and landing of passengers according to the state of the tide. On the opposite ends of each cluster of piles, are two high towers of a pyramidal form, about twelve feet from each other, and united by an ornamented arch. The chains are carried over the tops of the towers, and form a curved line at each side of the pier in the spaces between the towers built on the respective piles; to these chains is fixed the frame of the platform which is about twelve feet wide. The approach to the pier is by an esplanade, commencing from the Old Steyne; this esplanade which is raised several feet above high water mark, has a carriage road twenty-four feet wide, and a pavement for pedestrians ten feet wide. The whole length, 1250 feet, is defended from the waves by a massive sea-wall, finished with wooden railing. The junction road, by which the east and west cliffs, that is, the eastern and western parts of the town along the shore, are now connected, has its foundation upon the beach recently reclaimed from the sea. On the west cliff there is a battery, on which six pieces of cannon are mounted; a little beyond, another esplanade, forming an artificial terrace, sloping down to the sea, extends nearly a mile in length, and is in part formed of terraced walks, and in part covered with turf. Packets pass between Dieppe, the nearest sea-port of France, and Brighton several times in the week: the distance is about 80 miles. The borough of Brighton, in 1831, contained 8885 houses, and in all seasons of the year has a constant influx of visitors.

Newhaven is situated at the mouth of the river Ouse, thirty-five miles east of Chichester. It now forms the port of Lewes. Its harbour had become choked up with sand in consequence of the decay of the wooden piers, by which it was defended, and the place was deserted. In 1731, its harbour was improved and its trade began to revive. It has recently been still farther improved in order to form a shelter for vessels in stress of weather. The harbour is large enough to admit a frigate, and is at present considered equal to any tide harbour in the British Channel. The chief cause of its improvement is said to be the abstraction of many thousand tons of *boulders* from the sea-shore near the harbour's mouth, which have been picked up and sent to Staffordshire, for the use of the potteries. In consequence of these large stones having been removed in such quantities, the hard substances outside have become loosened, and the channel deepened. "In September, 1826, there was, at the dead of the neaps, 16 feet water at the water-gauge and over the jetty-work, and 19 feet in the channel. Twenty-five years since, vessels drawing 12 feet water have been kept a week off the port before they could enter*."

* Horsfield's History and Antiquities of Lewes and its Vicinity, vol. ii., App. p. vi.

In the rape of Pevensey towards the north is East Grinstead, thirty-eight miles north-east by east of Chichester, a market-town on one of the roads between London and Brighton, through Croydon, twenty-six miles south by east of the former place. It is irregularly built, but contains some good modern houses. The church is a handsome building, situated in the principal street. At the east end of the town is Sackville college, a charitable institution, founded in 1616 by the Earl of Dorset, for the maintenance of twenty-four aged persons; there is, also, a free grammar school, founded in 1708, now conducted on the plan of the national schools. This town is one of the polling places for the county.

Eastbourne, forty-four miles east by south of Chichester, is a bathing place, situated near the foot of a lofty hill which forms the bold headland of Beachy. This place consists of four divisions, Sea Houses, Meades, South Bourne, and East Bourne. The two former are situated on the sea-coast, and the two latter about a mile and a half from it. The church is a handsome building, with a fine old tower. About a mile from the Sea Houses is Holywell, where there is a chalybeate spring. About three miles from Eastbourne is Beachy Head, 188 yards above the level of the sea, the highest land on all the south coast of the island; here is a light-house with revolving lights. On the west side of the cliffs is a cavern, containing two chambers, called Parson Darby's Hole, from its having been inhabited two years by a clergyman, who lived there as a hermit. The whole coast of Sussex has, from the earliest records, been gradually suffering from the encroachments of the sea. In 1813, a mass of chalk, 300 feet in length, and from seventy to eighty feet in breadth, fell from Beachy Head, and similar slips have since been frequent *.

In the rape of Hastings is Rye, one of the two ancient towns enjoying the privileges of the Cinque ports, near the coast of Kent. This town sends one member to parliament; the elective franchise has lately been extended to the whole parish of Rye. Rye, fifty-three miles from London, stands on the edge of the Guildford Marsh, and is a town of great antiquity; its present condition is far from being prosperous. The navigation of this harbour having become much impeded in the reign of Edward I., a new channel was made, to which sea-sluices were constructed; but these preventing the proper flow of the tide up the river, and the scouring of the bed by the return of the tide, the channel became in time choked up and useless. The sluices were removed in 1721, without any beneficial effect: and in 1726 a new channel, one mile in length, was cut to the sea, which at that point is two miles from the town. This, however, owing to mismanagement and bad construction, soon became impeded, and has for many years been entirely choked up with sand. The present approach to the town for vessels is by the old harbour, at the entrance of which there are two light-houses. The commissioners of the levels wish to protect the interior from the effect of high tides, by which they are liable to be flooded; while the boatmen contend for the unobstructed navigation of the river. The harbour of Rye is now regulated by several acts of parliament, of which the last is 3 and 4 William IV. Rye is the market and port of the rich adjoining agricultural country. The exports, coastwise, are chiefly timber, bark, and hops; and the imports, coals. The spring tides rise twenty-four feet. The town is, in general, regular and well built. The church is a large stone edifice. There are a grammar school and a free school. The market-house, the upper part of which is used as a town-hall, stands in the centre of the principal street.

Winchelsea, sixty-three miles east of Chichester, about three miles from Rye, and eight from Hastings, is also a place of great antiquity, and one of the two ancient towns with the privilege of a Cinque port; it now contains only 772 inhabitants, and is entirely without any trade. The mouth of the channel near this town, which was projected as an improvement on Rye harbour, and still retains the name of the New Harbour, has been for many years entirely choked up with sand. Winchelsea was disfranchised by the Reform Act.

Hastings, one of the Cinque ports, sends two members to parliament; the limits of the borough include the towns of Hastings and St. Leonard's, and parts of several adjoining parishes.

Hastings, fifty-seven miles east of

* Geological Transactions, vol. iii. p. 192.

Chichester, is situated, in a valley, under a beautiful amphitheatre of hills, which present picturesque scenery on every side. It was within the last fifty years but a small fishing town, consisting of narrow and ill-paved streets; but it has gradually become a favourite resort as a watering-place, and many new buildings have been raised towards the west. There are two ancient parish churches, besides a handsome new church, and several dissenting meeting-houses. The town-hall and the custom-house are the principal public buildings. Two free-schools are established in this town. At the entrance of Hastings are barracks for foot soldiers. Near Hastings, on the west, is the new town of St. Leonard's, which at present consists of a double row of large and well-built houses, with a line of low-built shops placed between them and the sea. The principal business of Hastings, besides fishing, is the building of fishing-boats, and the burning of lime. The chalk is brought from the Holywell pits at Beachy Head. The town is lighted with gas. On the west of the old town are the small remains of an ancient castle, the exact date of which is not known, but it is certainly earlier than 1090. About six miles to the west of Hastings, on the coast, is Bexhill, where there are extensive barracks. Pevensey, about six miles from Bexhill on the coast westward, contains the remains of a very old and extensive castle. William the Norman landed in Pevensey bay when he invaded England in 1066.

Battle, six miles north-west of Hastings, consists principally of one street, running from north-west to south-east. On this spot the fortune of war gave to England its Norman rulers, and William the Conqueror raised an abbey. This edifice stands on a gentle rise, and still bears evidence of its former magnificence. The limits of the abbey precincts were not less than a mile in circumference. The diversity of style shows that the greater part was rebuilt at a later period. Part of it is still used as a dwelling-house; and a fine hall, 166 feet by 35, is now converted into a barn. Several large gunpowder mills are situated near Battle. This is one of the polling-places for the county.

Population of market-towns in Sussex:—

Chichester	8270
Arundel	2803
Steyning	1436
Bramber	97
Shoreham	1503
Brighton	40,634
Hailsham	1445
Lewes	8592
Seaford	1098
Hastings	10,097
Battle	2999
Rye	3715
East Grinstead	3364
Horsham	5155
Cuckfield	2586
Petworth	3114
Midhurst	1478

Authorities.

Dallaway's History of Sussex.
Young's Agriculture of Sussex.
Hay's History of Chichester.
Hastings Guide, &c.
Horsfield's History and Antiquities of Lewes and its Vicinity.

SURREY

Is separated from Middlesex on the north by the Thames; on the east it is bounded by Kent; on the south by Sussex; on the south-west by Hampshire; on the north-west by Berkshire. Its length is thirty-seven miles from east to west, and twenty-five from north to south; it contains 758 square miles. The north-eastern part, containing part of the metropolis and its environs, is very thickly peopled. A range of chalk hills enters this county from Kent near Tatsfield, about one mile and a half north-west by north of Westerham, and takes a westerly course, nearly through the whole county, terminating between one and two miles E.N.E. of Farnham. This ridge has occasional depressions, one of which is near Gatton: it is also broken by the valley of the Mole, near Dorking, and the valley of the Wey, near Guildford. From Guildford, westward, its top is one continuous ridge, which, from its form, has obtained the name of the Hog's Back. Between three and four miles south of this range, extending southwards from Dorking in a curved direction to the valley of the Wey, are the detached high grounds of Leith Hill Common and Thurlwood Common: there are also to the east of these some elevations between Bletchingly and Nutfield. At the south-west corner of the county, about eleven miles

south-west of Guildford, and to the north of Haslemere, is Hind Head, ground of considerable elevation. Chobham ridge, another portion of high ground, runs near the north-west boundary of the country. On the north the surface is undulating. Towards the south, the country is likewise undulating and thickly wooded; a tract of land in the south part of the county, thirty miles in length from east to west, and four in breadth, is called the Weald of Surrey. The timber here grows on a compact argillaceous soil, which produces some of the finest oaks in England. The south-west part is extremely productive, but on the north-west there extends a black and barren moor, part of which is included in Bagshot.

The principal rivers in Surrey are the Wey, the Mole, and the Wandle. The course of the Wey is described p. 49. It enters Surrey about two miles south-west of Farnham. In addition to what is stated above (p. 49), it may be added that the Wey is joined at Telford Bridge, by a branch which rises near Haslemere, and runs into Hampshire, and again enters Surrey four miles south of Farnham. At Shalford, one mile south of Guildford, it is joined by a stream which rises on Leith Hill, south-west of Dorking.

The Mole (p. 50) is formed by the union of several springs in Tilgate Forest, in Sussex, whence it flows in a north direction into Surrey, and winds through rather a flat country till it comes near Dorking; it then passes through a beautiful valley formed in the chalk range, past the foot of Boxhill. Here, in dry weather, it altogether disappears, and rises again in a strong spring at the bridge of Thorncroft, from which place it continues its course. This disappearance is caused by the bed of the river being here of a spongy and porous nature, which in dry weather absorbs the limited supply of water. From Thorncroft it runs to Leatherhead, then in a north-west direction to the village of Chobham, which it nearly encircles, then northwards to Esher, and to the river Thames, opposite Hampton Court. The Wandle is an inconsiderable stream, but in its short course of ten miles it turns nearly forty mills. It rises near Croydon, and passing by Mitcham and Merton, falls into the Thames near Wandsworth. Another still smaller stream, called Hog's Mill, rises near Ewell and Epsom: at Ewell and also at Maldon it supplies several gunpowder mills, and a large corn mill at Kingston, where it enters the Thames. In the west part of the county there are several large ponds; one between Chobham and Byfleet covers nearly 150 acres. These ponds are used for feeding fish for the London market. The water in this county is in general at a great distance from the surface. In some situations boring must be carried on to the depth of 300 feet before a regular supply of water can be procured.

The first locks erected on any river in England were those on the Wey. This contrivance for making rivers navigable, was brought from the Netherlands between the years 1645-50; and by its application the Wey was then made navigable as far as Guildford. In 1760 the locks were extended to Godalming, four miles farther.

Between Guildford and Godalming is the commencement of the Surrey and Sussex Canal, which opens a communication between the Wey and Arun. Much lower down, near Byfleet, the Basingstoke Canal communicates with the Wey, and runs from the point of junction in a west-south-west direction into Hampshire, terminating at Basingstoke. The canal is principally fed by the little river Blackwater, which rises a few miles north of Farnham, and from that point forms the boundary between Surrey and Hampshire. The Basingstoke Canal was completed in 1796; from Dradbrooke to the Wey, a distance of only fifteen miles, there are nine locks on a fall of 195 feet.

The Croydon Canal commences at Croydon and runs to Deptford, and thence by the little stream called the Rother, to the Thames at Rotherhithe. It is nine miles and a half long, was begun in 1802, and opened in 1809. This canal has not proved of that utility which was expected; although it has been the means of supplying the inhabitants of Croydon and its vicinity with coals and other articles of consumption at a cheaper rate than by land carriage. An act of parliament has recently been obtained for making a rail-road, which will supersede this canal altogether. The proposed rail-road is to issue out of the Greenwich rail-road, and pass along the site of the canal to Croydon. The Grand Surrey Canal runs from its junction with the Croydon canal at Deptford, to Camberwell.

An iron railway from Wandsworth to Croydon was begun in 1802, being the first instance of the formation of roads of this kind for general use in England. An improved principle of constructing rail-roads is now however adopted, which will render the present one quite useless. The length of rail-road from Wandsworth to Croydon is ten miles; the line is continued eight miles beyond Croydon as far as Merstham.

The soil of the county is mostly clay, loam, or chalk. On the south it is clay: a little to the north it is a loam of great depth, with a subsoil of sandstone. There are also spots of fuller's earth. The chalky downs in the centre are about seven miles in breadth in some parts. Towards the north the soil is mostly clay, but some parts within a few miles of London are of gravel. Brick earth is found in most parts of the county, but is considered inferior to that of Middlesex. It is estimated that the waste lands of Surrey occupy 73,000 acres, the other parts being arable, woodlands, and pasture: a much greater proportion is under tillage than is appropriated to pasturage. The soil is less favourable to oats than to wheat or barley; peas, beans, and turnips are also raised in the county. Woad is sown with barley on the chalk hills near Banstead Downs. Clover and sainfoin likewise succeed on the chalky soils of the hills, where, as well as in the wealds, timber is raised to a considerable amount. Oak, beech, walnut, ash, elm, box, yew, birch, fir, larch, and maple are the most common trees. Near Farnham, hops of a superior quality are grown: one of the largest hop-grounds contains about 900 acres. Towards the north, within ten miles of the metropolis, there are numerous garden grounds, where vegetables are raised for the London market; it is estimated that these gardens occupy 3500 acres of ground. This part of Surrey is particularly distinguished for the fine quality of its asparagus, which is grown in great quantities about Mortlake, East Sheen, and Battersea. Plants for the druggist and perfumery are cultivated near Mitcham. Along the banks of the Thames there is chiefly grass land. The farms in this county are not of a large size; the most extensive contains about 1600 acres, but the most usual size is from 200 to 300 acres; and there are many below that amount. In most parts of the county the climate is considered mild and salubrious.

Surrey is divided into 14 hundreds, which contain one hundred and forty-four parishes, and thirteen market towns. It is likewise politically divided into east and west divisions, each of which sends two members to parliament.

The east division comprises Tandridge, Brixton, Kingston, Reigate, and Wallington hundreds. The western division comprises Blackheath, Copthorn, Effingham, Elmbridge, Farnham, Godalming, Godley and Chertsey, Woking and Wotton.

In the Eastern division is the Borough of Southwark, on the south side of the Thames, forming the southern part of the metropolis: it consists of five very populous parishes, and extends about one mile and three quarters from east to west, and about one mile from north to south. The Borough of Southwark returns two members to parliament. The whole of this area is crowded with houses and public buildings. There are six parish churches and several meeting-houses. Close to London Bridge on the west side is St. Saviour's church, built in the cathedral form, though of comparatively small dimensions. It was founded before the Norman conquest, but of the original building there now remains only the interior of the west front of the church; the rest is in the different styles prevailing between the thirteenth and sixteenth centuries. It has been several times repaired, particularly in 1703 and 1825: at the latter date the choir was restored in the pointed style of which it affords a fine specimen. The length of the church is 270 feet, its breadth 54, and height 47. The breadth of the cross-aisle is 109 feet. The tower, surmounted by four pinnacles, is 150 feet high. It was on this elevated point that Hollar took his views of London, both before and after the great fire. This church has three chapels attached to it. The chapel of our Lady, which is particularly admired, contains a monument in excellent preservation, supposed to be that of William of Wykeham, bishop of Winchester, who died in 1395. This chapel has lately been repaired and restored by public subscription. One of the other chapels, situated on the north side of the choir, is now the vestry-room. The other chapel is on the south side. In St. Saviour's churchyard there are a free grammar-

school and also a free English school. On the east side of the bridge is another endowed grammar-school with 250 scholars on the foundation. Besides these there are in the Borough several charity-schools, and among them the school in which Lancaster's plan was first introduced, now called the Borough Road School. Several hospitals and charitable institutions are situated in this part of the metropolis, which have been already enumerated. (p. 144.)

The Bethlem Hospital for Lunatics, in St. George's Fields, near Blackfriars-road, has accommodation for 200 patients: the buildings and grounds occupy about twelve acres. It was built in 1812, in place of the old hospital situated in Moorfields, which was pulled down in 1814.

Near this spot is a school for the indigent blind, instituted in 1799: a new building is now (1836) in course of erection. Not far from this school is the house of the Philanthropic Society: a society instituted in 1803 for procuring the discharge of persons confined for small debts, and for the temporary relief of the necessitous manufacturers and labourers in London and its vicinity. In the Kent Road, at the other side of Southwark, is a well-conducted Asylum for the deaf and dumb, instituted in 1792.

St. Thomas's Hospital, which is situated in High-street, was founded by Edward the Sixth. The old building being much damaged by time as well as by fire, was rebuilt on a more enlarged and commodious plan in 1699, when it consisted of three handsome squares: in 1732 a fourth was added. In the centre of the second court is a bronze statue of Edward the Sixth, by Scheemakers. The building contains 18 wards and 485 beds. The annual number of patients relieved here is estimated at 11,000, and the expenditure at about 10,000*l.* This hospital possesses large estates; and is now in course of being rebuilt.

Guy's Hospital in St. Thomas's-street, was established in 1721, by an individual whose name it bears. It contains 12 large wards, in which there are more than 400 beds. There are very large funds for the support of this hospital. Besides its original endowment and accumulations, it was still further enriched in 1825, by the bequest of Mr. Hunt, amounting to 200,000*l.*, with the condition annexed that adequate accommodation should be provided for 100 additional patients. All persons applying for advice and medicines, on stated days in the week, are relieved here without any recommendation. A fine statue of Guy the founder stands in the area of the building.

The King's Bench, in St. George's Fields, Southwark, is a prison of great antiquity, and contains within its walls a little town. The building contains 224 rooms and a chapel, the whole surrounded by a brick wall thirty feet high, surmounted by a *chevaux-de-frize.*

The Marshalsea, a prison, likewise of very ancient date, is situated near St. George's church in the Borough. This is the prison for the Palace Court. It contains about sixty rooms.

The Borough Compter belongs to the city of London. Its jurisdiction extends over five parishes; it was very inefficient in its management and accommodation till 1817, since which time, in consequence of a Parliamentary inquiry, it has been much improved.

The Surrey County Gaol, situated in the Borough, erected in 1781, is a brick building surrounded by a strong wall.

A prison called the New Bridewell, has lately been erected near Bethlem Hospital: the chief employment of the prisoners is turning the tread-mill which grinds the corn for the supply of the hospital.

A Theatre is situated at the end of Blackfriars-road.

Water-works, which supply many thousand houses with water, are situated on the banks of the Thames, between the London and Southwark bridges, on that part formerly known as the Bear-gardens. Between Southwark and Blackfriars bridges, are the Phœnix Gas-works, from which a very extensive district it lighted. A great variety of manufactures are carried on within the Borough of Southwark.

The parish of Bermondsey is to the east of Southwark, on the banks of the Thames. It contains a free-school and a charity school. The trade of Bermondsey is principally the tanning and preparation of leather; besides which, there are several manufactories along the water-side.

Rotherhithe, still farther to the east, touching on the county of Kent, has numerous wharfs and docks for ship-building, which constitutes the chief

business of Rotherhithe. A granary on a very large scale was erected here a few years since, at the cost of 70,000*l*. It is one of the most complete of its kind. Barges are admitted under the warehouses, and are drawn up through trap-doors to the floors above and there discharged of their contents. There is a church and various free and charity schools in Rotherhithe. (For the Tunnel, see p. 140.)

On the west side of Southwark is the parish of Lambeth, which includes the districts attached to the new churches of St. John Waterloo, Kennington, Brixton, Norwood, and the district which still belongs to the old parish church. It has lately been made a metropolitan Borough, and sends two members to parliament. In the village of Lambeth, which is the part nearest to the river, stands Lambeth Palace, the town residence of the Archbishop of Canterbury, situated on the Thames, midway between Westminster and Vauxhall bridges. A considerable portion of this edifice was built in the 13th century, but as many additions have been made to it at different times, the whole forms a large irregular building. The present archbishop has made very extensive alterations and additions, completed in 1833. The principal new building is in the gardens east of the old Palace. Near the Palace is Lambeth church, a very old building; besides which there are a chapel of ease and seven meeting-houses.

The hospitals and other charitable institutions in this parish are—

1. General Lying-in Hospital, York-road, Westminster-Bridge, instituted 1765: it was rebuilt on its present site in 1828.

2. The Asylum, instituted in 1758, as a house of refuge for female orphans. A new building, forming three sides of a quadrangle, was erected in 1825.

That part of the village of Lambeth, between Westminster and Vauxhall bridges, is a dirty place, with narrow streets and mean houses. Among the numerous manufactories established here are potteries, distilleries, vinegar-yards, starch-making, soap-boiling, &c.; indeed, all along the Thames, from Rotherhithe to Vauxhall bridge, including about four miles, the banks of the river are occupied by a variety of manufactories.

At Brixton, about four miles from London, is the county prison, which contains a tread-mill. A reservoir has been made here lately to receive water pumped up by steam from the Thames; this water when purified is returned, by means of iron pipes, to the neighbourhood of the metropolis.

At Norwood, in the parish of Lambeth, about seven miles from London, a powerful saline spring has recently been discovered: ornamental grounds and buildings are forming on this spot, which has received the name of the Beulah Spa.

Camberwell is a very populous parish to the east of Lambeth, including, besides the village of Camberwell, the hamlets of Peckham and Dulwich. In Dulwich is a college for the education and maintenance of a master, warden, four fellows, six poor men, six poor women, and twelve scholars, &c. founded by Edward Alleyne, an actor and contemporary of Shakspeare. This college has a fine collection of pictures, chiefly left by Sir Francis Bourgeois, which is open to the public. A new proprietary school, called the Camberwell Collegiate School, has lately been established at Camberwell.

Clapham, a very populous parish to the south of Lambeth, contains many good houses, and handsome villas. There are two churches, a chapel of ease, and several other places of worship. Adjoining Lambeth, to the west, on the south bank of the river, is the parish of Battersea; the village of Battersea is opposite Chelsea, with which it is connected by a wooden bridge. There are several mills erected at Battersea for various purposes. Among these are the veneer saw-mills of Brunel, by which wood is cut into thinner slips than was ever before accomplished. Battersea was the birth-place of Lord Bolingbroke, who died in the family mansion here.

Wandsworth, adjoining Battersea, is on the Wandle, upon which are numerous dye-works, flour, corn, and other mills. Wandsworth, is a large village, containing a church, and a chapel of ease, besides other places of worship.

On the banks of the river is Putney, four and a half miles north of London, a pleasant village, connected with Fulham, on the opposite side of the river, by a wooden bridge. Gibbon was born here in 1737.

Kew, six miles west of London, has a Royal Palace, with very extensive gar-

dens attached to it; the grounds at present containing 120 acres, are laid out with much taste; the botanic garden contains a choice collection of exotic plants. Near this spot a new palace in the Gothic style was begun by George III., but it was pulled down in 1827. A handsome stone bridge of seven arches connects this village with Brentford in Middlesex, on the opposite side of the Thames.

Mortlake, nine miles south-west of London, contains in its churchyard the remains of John Partridge, the astrologer, who was father of most of the nonsense which till lately disgraced the pages of our most popular almanacs.

Richmond, nine miles west-south-west of London, is noted for the beauty of the surrounding scenery. The view from Richmond Hill is, perhaps, the finest within the vicinity of London. The old Royal Palace of Richmond is no longer standing, but there are still Royal Gardens, which in summer are open to the public. The present park, which was formed by Charles I., is eight miles in circumference, and contains 2253 acres, and some very fine timber. The river at Richmond is crossed by a stone bridge of five arches.

Kingston, a borough, seventeen miles and a half north-east of Guildford, was probably a Roman station, as many Roman coins have been dug up in this neighbourhood; and urns and other antiquities have also been found. A bridge over the Thames connects this place with Teddington. (see p. 49.) Kingston has a spacious market-place, on the north end of which is the town hall. The houses are in general low and mean. The church is a large building. Kingston is one of the polling places for the county.

At Merton, seven miles south of London, and a mile beyond, at Mitcham, there are extensive calico and bleaching grounds. On the south of these, is the parish of Sutton, where are considerable chalk-pits. At Merton (by the Saxons called *Meredune*) Henry I. built a monastery, in which a parliament was held by Henry III. Fuller's earth is obtained both near this place and at Croydon, but it is of an inferior kind to that of Reigate.

Croydon, ten miles south of London, and twenty-two miles and a half E.N.E. of Guildford, consists principally of one well-built street, nearly a mile in length. It has a handsome church, two chapels of ease, and a large modern town-hall. The business of calico-printing was formerly carried on here. This is the election town for the eastern division of the county. Croydon contains a great number of charitable endowments. The principal of these is the hospital of the Holy Trinity, founded in the reign of Elizabeth, by Archbishop Whitgift, for the benefit of a master, warden, and thirty poor persons at the least. The building called the palace, erected in the fourteenth century, was formerly the residence of the archbishops of Canterbury; but in 1780, being much out of repair, the premises were sold, and the building is now used as an establishment for bleaching linen. The present palace is situated at Addington, three miles east of Croydon. The East India Company have a military college at Addiscombe, a mile east of Croydon, for the education of cadets, some of whom are half-yearly selected to go out to India.

At Carshalton, about two miles south-west of Croydon, there are flour, paper, snuff, and oil-mills, with calico printing and bleaching establishments. Ten miles south of Croydon, are Godstone and Bletchingly, where fuller's earth of excellent quality is obtained. Quarries of freestone of a very fine description are worked near Godstone. When first dug out of the ground, the stone cannot resist damp; but after being kept for a few months under cover, it becomes extremely hard, and can bear without injury a considerable degree of heat. It is sent in large quantities to the metropolis, where it is much used for fire-places.

The borough of Reigate, sixteen miles east of Guildford, situated at the foot of the chalk hills, sends one member to Parliament: by the Reform Act the elective franchise was extended to the whole parish which is about three and a half miles from north to south, and four and a half miles from east to west. Reigate is a small but neat town. The church is situated at its eastern extremity. Fuller's earth of the best quality is sent from here to the metropolis. The white sand of this place and of Dorking is much esteemed; and is largely used in the manufacture of glass.

Guildford, the county town, situated on the river Wey, thirty miles south-west of London, is in the west division:

it sends two members to parliament; the limits of the parliamentary borough have been much enlarged. This town is well paved, and lighted with gas. It is supplied with water from the river by means of an engine, which throws it into a reservoir, whence it is conveyed by pipes. Its principal street runs along the declivity of a chalk-hill of some elevation. There are three parish churches and several meeting-houses. The other principal buildings and institutions are, the Guildhall, an hospital, a free grammar school, a gaol, and a theatre. South of the High-street are the small remains of a very ancient castle. About two miles east of the town is a race-course. A bridge of five arches crosses the Wey; its original material is stone, but it has subsequently been widened with brick-work. In the neighbourhood are several paper and other mills.

Godalming, a market town and borough, situated four miles and a half to the south-west of Guildford, on the Wey, mostly consists of a principal street running nearly east and west. The great road from London to Portsmouth passes through this town. Its principal manufactory was of fleecy hosiery. On the river near the town are paper and grist mills: leather, silk, and cotton stockings are made here. There is also a considerable coal trade.

Dorking, a market town, ten miles and a half east of Guildford, is situated between Guildford and Reigate. Limestone is found in great abundance near this town, which, as well as the chalk, is made into lime for the supply of London. The Dorking fowls are either perfectly white or of a partridge colour; they are of superior quality and marked by having five claws: such a species is described in Columella's Roman Husbandry, and it is conjectured that this breed was originally brought from Italy. A short distance from Dorking, and twenty-two miles from London, is Boxhill, a romantic spot, which received its name from the box trees planted on the south side of it, in the reign of Charles I. The proprietor of the estate sold the trees in the beginning of this century for 15,000*l.*, and a number of them have been cut down.

At Epsom, fifteen miles north-east by east of Guildford, horse-races are annually held. Ewell, sixteen miles and a half north-east by east of Guildford, has a church built of flints intermixed with chalk, and contains many curious monuments.

Farnham, a borough, ten miles and a quarter west of Guildford, situated on the north bank of the Wey, is a neat town, consisting principally of one street. The manor was granted to the See of Winchester by King Ethelwald: it is governed by twelve burgesses from whom two bailiffs are annually chosen. The bishops of Winchester have had a palace in this parish ever since the reign of Stephen, and it is at present their principal official residence. The castle, standing on an eminence on the north side of the town, was built by Henry de Blois, brother of king Stephen and bishop of Winchester, and has been twice destroyed in the civil wars of this kingdom. After the Restoration, the present palace was rebuilt by bishop Morley: it is situated within the precincts of the castle, is a quadrangular embattled brick building covered with stucco, neither remarkable for beauty nor convenience. There are still some remains of the ancient keep, surrounded by a strong wall and a dry ditch, now planted with oaks. Two parks formerly belonged to the castle. The larger, containing about 3000 acres, was converted into farms under an act of parliament in the reign of Charles II. The present park is to the east of the castle, and contains about 300 acres. Adjoining the park is Jay's tower, on the summit of which is a kitchen and fruit garden, which contains one rood eight perches, and has about four feet depth of soil. The church is a large building, consisting of a nave, chancel, and two aisles. Here are a free school and a good charity school. This town had formerly considerable cloth manufactures, but they have long since declined. Hops are cultivated to a great extent, nearly 1000 acres in this parish being occupied by hop plantations. Farnham hops are preferred for their paleness of colour and delicacy of flavour, and always obtain a higher price in the market than hops grown in other districts. A small sail-cloth manufactory is carried on in this town.

Leatherhead, eleven miles and a half E.N.E. of Guildford, is a small town situated on the east bank of the Mole. It consists of four streets meeting in the centre. The church, which is very old, has a nave, and two aisles, and

transepts, with a lofty tower. A bridge of fourteen arches crosses the river here.

Chertsey, situated near the Thames, eleven miles and a half north of Guildford, is a place of great antiquity. An abbey of Benedictine monks was founded here in 666, which was largely endowed. Henry VI. was first interred in the church of this establishment, and was afterwards removed by Henry VII. to Windsor. The church was rebuilt in 1804. This town contains a charity school, founded in 1725, some almshouses, and a well-built modern market-house. A bridge built with Purbeck stone, of seven arches, was erected over the Thames here in 1785. Chertsey is a polling place for the county.

Haslemere is a small town twelve miles S.S.W. of Guildford, formerly of much greater consequence than at present. It was a parliamentary borough, represented by two members, but was disfranchised by the late Reform Act. In the parish of Esher is Claremont Park, twelve miles north-east of Guildford, which was the favourite residence of the late Princess Charlotte. Oatlands Park, near Weybridge, eleven miles N.N.E. of Guildford, was the residence of the late Duke of York.

Population of the market-towns and boroughs of Surrey :—

Guildford	3833
Dorking	4711
Reigate	3397
Croydon	12,447
Southwark	134,117
Lambeth	151,613
Richmond*	7243
Kingston	5989
Chertsey	4795
Ewell	1630
Epsom	3231
Woking	1975
Farnham	5858
Godalming	4529
Leatherhead	1724
Haslemere	849

Authorities.

Manning's History of Surrey.

Malcolm's Agriculture of Surrey.

Dr. Ducarel's History and Antiquities of the Archi-episcopal palace of Lambeth.

* Richmond is a populous village, not a market-town.

HAMPSHIRE

Is a maritime county on the south coast, bounded on the east by Surrey and Sussex; on the south by the English Channel; on the west by Dorsetshire and Wiltshire; and on the north by Berkshire. It is of a tolerably regular quadrilateral form, except on the south-west, where it borders on Dorsetshire. The greatest length of the county from north to south is about forty miles; and from east to west about the same (not including the Isle of Wight). The area is about 1628 square miles. The general aspect of this county is pleasing; there are no parts very elevated, but it is everywhere diversified by an alternation of high and low land. Two principal ridges of chalk hills run through the county: one, which is a continuation of that range described as passing through Surrey, enters Hampshire from the latter county near Farnham, and taking a westerly direction rather inclining to the north, leaves the county at the point where it joins Wiltshire and Berkshire. The other ridge is more to the south; entering from Sussex, a few miles from the coast, and taking nearly the same direction as the more northern range, it passes through Hampshire, and enters Wiltshire about twenty miles from the coast. (See p. 52, &c.) These hills contain between them an elevated tract, in which are the sources of the waters which flow into the Thames and the Channel respectively. A great part of Hampshire is occupied with extensive forests of oak, and large tracts of open heath, especially on the borders of Dorsetshire. The New Forest formed by William the Conqueror occupies nearly the whole of the tract near the coast between the Southampton inlet and the Avon. About 63,000 acres of forest and waste land here belong to the crown. Bere forest, on the borders of Sussex, to the north of Portsdown, contains 1600 acres. The forest of Woolmer and Alice Holt, on the borders of Surrey, near Alton, comprises 1500 acres. These forests collectively furnish a large supply of oak for the navy and oak bark of fine quality; but the number of trees has decreased, since new plantations have not been formed equal to the consumption of the old timber. The coast, which is very much indented, affords excellent roadsteads and harbours. The coast adjoining Sussex,

runs about five miles west, and then takes a bend to the south, forming a small bay with the opposite coast of Sussex: this bay contains Hayling island. A large portion of this island was destroyed by the sea, in the reign of Edward III. At Portsmouth the coast again turns to the north, forming a narrow neck of land about four miles in length: it then runs five miles to the west, then about five miles to the S.S.E., where Gosport stands at the south-east point of a peninsula. A safe and capacious harbour is thus formed with an opening of little more than a quarter of a mile in width. From near Gosport, the coast runs in a north-west direction, forming one side of the Southampton inlet, a shallow muddy bay eleven miles in length. The coast takes a direction of about W.S.W. from the mouth of Southampton Water, and is very little broken. Opposite Southampton Water is the Isle of Wight, which is separated from the main land by a channel varying in breadth from two to seven miles. The whole of the coast-line of Hampshire, including the inlets, is about eighty miles. The Isle of Wight is about fifty miles in circuit.

The principal rivers are the Avon, the Boldre, the Exe, the Anton or the Test, the Itchin, and the Stour. (See p. 55.)

The Avon enters Hampshire four miles north of Fordingbridge, and taking a southerly direction, falls into the sea at Christchurch bay, which also receives the Stour, flowing in a south-east course from Dorsetshire. The Boldre has its source in the New Forest, and falls into the sea at Lymington: it is navigable a few miles. The Exe also has its source in the same district, and beginning to widen near Beaulieu, flows into a broad æstuary below Exburgh. The Anton rises near Andover, and taking a south-west direction is joined by the Test above Leckford: the Test rises near Whitchurch. The united stream runs southward through Stockbridge and Romsey, and falls into the north-west extremity of Southampton Water.

The Itchin rises in the middle of the county not far from Alresford, and passes by Winchester, from which city it takes a south-south-west course, and falls into the Southampton Water, about half a mile east of Southampton.

From the Southampton Water, a canal runs due north to Romsey, and thence north and west to Salisbury in Wiltshire. A branch of the same canal, commencing a few miles beyond Romsey, runs nearly northwards to Andover. Another inland navigation extends from Southampton to Winchester along the valley of the Itchin. In the north part of the county, the Basingstoke canal, commencing at Basingstoke, runs to the Wey and the Thames.

The soil of the county varies in different parts, but its prevailing character is calcareous. A large proportion of the land is devoted to pasturage; hogs and sheep are reared in large numbers, and bacon of a superior quality is made. Wheat, barley, peas, and the artificial grasses are the principal crops. Near Alton, a considerable number of acres is under hop cultivation. The climate of Hampshire is mild and healthy.

Hampshire was, till very lately, divided into 39 hundreds, containing 324 parishes and one city: but now, under the statute 9 Geo. IV., cap. 43., it is divided into thirteen parts, simply called divisions, which are again politically divided into two parts, called north and south divisions, each of which sends two members to parliament.

The Northern Division comprises,

Alton, Andover, Basingstoke, Droxford, Kingsclere, Odiham, Petersfield, Winchester.

The Southern Division comprises,

Fareham, Lymington, Ringwood, Romsey, Southampton.

Winchester, (the Roman Venta Belgarum) one of the most ancient cities in the kingdom, is situated on a gentle declivity near the Itchin, sixty-two and a half miles south-west by west of London. It sends two members to parliament: the limits of the franchise have lately been much enlarged. It is supposed to have been the site of a Roman encampment or town, and previously of a British city; under the Heptarchy it was the capital of the West Saxon dominions, and was made by Egbert, who united all the Saxon kingdoms, the metropolis of the whole kingdom. The town consists of several broad clean streets, arranged in a regular manner; the principal street, running from east to west, is about half a mile long. The cathedral is of great antiquity: part of the building, as erected by Ethelwold, is still standing. The other parts of the edifice are referred to the eleventh, fourteenth, and

sixteenth centuries, and afford specimens of the Saxon, Norman, and English styles of architecture. The extreme length of the cathedral is 556 feet; breadth, 230; length of transept, 208; height of tower, 150.

A college was founded at Winchester in the latter part of the fourteenth century, by William of Wickham, bishop of Winchester, which, as Camden remarks, "has a plentiful maintenance for a warden, ten fellows, two masters, seventy scholars, three chaplains, three clerks, an organist, sixteen choristers, and the statutable servants." The buildings form two spacious quadrangles; on the south side in the inner court is a magnificent chapel and hall. Adjoining the college on the west, are spacious buildings for students who are not on the foundation. Winchester college, with its grammar-school, differs little in its foundation and management from Eton. This city and its suburbs were once crowded with ecclesiastical buildings. The churches and chapels are said to have amounted, before the dissolution, to ninety in number: they are now reduced to nine parish churches. There are several meeting-houses for dissenters. The castle, erected in the time of William I., stood at the south-west angle of the city, but the remains are now few, it having been nearly demolished by Cromwell, to whom the city surrendered after a short siege. The fortifications of the town, as well as Walvesey Palace, the episcopal residence, situated a short distance north-east of the college, were demolished at the same time. The palace was rebuilt by Bishop Morley, A.D. 1684. The royal residence begun by Charles II., stands on the site of the first castle. The principal floor of this building consists of a range of apartments containing 160 rooms. It has sometimes been made a temporary abode for prisoners of war on their parole, and is now used as barracks. The chapel attached to the castle has been converted into a county-hall, where is suspended that celebrated piece of antiquity, Arthur's Round Table, which has been made a subject of tradition rather than of history. Among the other principal public buildings and institutions are, 1st. The town-hall, in which the archives of the city and some curious relics of antiquity are preserved. The original Winchester bushel, and other measures of capacity and length, which were ordered by King Edgar to be kept as standard measures, are shown here. 2nd. The city cross erected in the reign of Henry VI., which is an elegant piece of work forty-three feet high. 3rd. The market-cross. 4th. The market-house. 5th. The county gaol, built in 1788, on the plan of Howard. 6th. The city bridewell. 7th. The county bridewell. 8th. Christ's hospital, founded in 1706. 9th. The public infirmary, a handsome building, erected in 1759. Besides these, there is a number of private charities, and three well-endowed charity schools. There are two banking-houses and a theatre. An annual music festival is held in the cathedral at the autumnal season, which continues three days. There is very little trade, and no manufacture but that of sacks to a small amount. There is a good corn-market, and once a year a very large sheep-fair. A small establishment for silk existed some years since, but it has been removed to districts more favourable to the application of machinery. Winchester is the election town for the north division of the county. The streams in the vicinity abound with trout and other fish.

Stockbridge, nine miles and a quarter N.N.W. of Winchester, stands on the east bank of the Anton, and on the road between Winchester and Salisbury. It consists chiefly of houses built on each side of the high road, and has little or no trade. Its prosperity chiefly depends on the traffic occasioned by its being a considerable thoroughfare. Stockbridge is a disfranchised borough. The Andover canal passes through the town.

Andevor or Andover, a borough about twelve miles N.N.W. of Winchester, sends two members to parliament; the franchise now extends beyond the borough limits. Andover consists of a few wide streets pretty well built: the town-hall, a new building, with a Grecian front of stone, stands in an open area: the under part is the market-house. The church is an ancient structure. The town contains a free grammar-school, two almshouses, and a national school. Andover existed in the time of the Saxons under the name of Andeafaran. The malting business is carried on here to a considerable extent, and the manufacture of shalloon to a small amount. The town contains a gaol. There are three fairs in the year; the Weyhill

fair, held near Andover, is one of the largest in the kingdom.

Petersfield is a borough, eighteen miles east by south of Winchester. Till recently it sent two members to parliament: it now returns only one, and the franchise has been extended much beyond the ancient borough.

Basingstoke, a borough nineteen miles north-east by north of Winchester, has a church of the time of Henry VIII., a market-house, gaol, town-hall, a free-grammar-school, with other schools and charities. The chief business is malting. This town was the birth-place of John of Basingstoke, a distinguished English scholar of the thirteenth century, who went as far as Athens to study Greek. This and the two preceding towns are polling places for the county.

About six miles north of Basingstoke, and on the borders of Berkshire, is Silchester, which was certainly a Roman* station of great importance, though whether it should be identified with Calleva Atrebatum, or with Vindonum, seems rather doubtful. The Roman city was probably demolished in the Saxon times, and nothing now remains of it but the enormous walls. Numerous antiquities have been found, and still are found on the spot.

Kingsclere, a small market-town, nineteen miles north of Winchester, contains one church and a well-endowed free-school. The malting business is carried on here to a considerable extent. Kingsclere is one of the polling places for the county.

Odiham, a market-town, on the road between London and Winchester, twenty-two miles north-east of the latter city. About a mile from the town are the vestiges of a castle, the origin of which is prior to the twelfth century. There are likewise the remains of a royal palace and park. The chief occupations of the inhabitants of the town are spinning of worsted and winding of silk. Odiham was the birth-place of Lilly the grammarian. This is one of the polling places for the county.

Alton, a market-town, eighteen miles east-north-east from Winchester, contains one church, and two or three places of worship for dissenters. Silk, worsted, stuff, and woollen factories give occupation to the working classes. A small cotton and sacking manufactory is carried on in the vicinity, and in the House of Industry, established in 1793, calicoes are woven. Alton is one of the polling places for the county.

Alresford, seven and a half miles east by north of Winchester, was formerly a place of importance. The whole town was burnt down in 1710, and the place is now of little note.

Bishop's Waltham, a small town ten miles south-east of Winchester, was formerly the residence of the bishops of Winchester, who had a palace here, which was destroyed in the civil wars of the seventeenth century. Tanning and malting form the principal business of the place. It is one of the polling places for the county.

Whitchurch, a market-town, about thirteen miles nearly due north of Winchester, consists chiefly of one street; it contains a church and four meeting-houses. Here is an extensive manufacture of paper for the exclusive use of the Bank of England. Shalloons, serges, and similar goods are also manufactured. Whitchurch sent two members to parliament, but was disfranchised by the Reform Act.

Southampton, seventy-five miles west-south-west of London, is the election town of the southern division of the county. It is likewise a county of itself, being styled the town and county of Southampton, and sends two members to parliament. It is situated on the large æstuary called Southampton Water, being bounded by that water on the west and south, and on the east by the river Itchin. The whole town and county form an irregular triangle, one of the sides of which is bounded by the river Anton, the other by the Itchin, their confluence forming the apex; the base, extending in a north-west direction, is about one mile and three quarters in length, and its distance from the apex is little more than two miles and three quarters. The town stands on a gentle slope, with a dry soil; the streets are well paved, and always dry and clean, and generally wide and well built. The town comprises between thirty and forty streets and lanes, the principal of which is the High-street, which is nearly a mile in length, and runs from the quay in a north direction. The surrounding country is pleasant. There are five parish churches, a handsome chapel of ease, and four chapels for dissenting congregations: besides these,

* One inscription (a monumental one) from Silchester is given in Camden.

there are a Catholic chapel and a chapel adjoining to a large penitentiary lately built. This town was once fortified with strong walls, double ditches, battlements, and watch-towers. Some remains of the wall are left. The bargate, through which is the principal entrance to the town, is in a curious style: its north front is a sort of semi-octagon, flanked with two lower semi-circular turrets, and crowned with large and handsome machicolations; the arch of entrance is pointed with a profusion of mouldings, some of which have been cut away to widen the carriage entrance. Over the gateway is the town-hall. There are remains of a large building, supposed to have been a palace of the Saxon and Danish kings, near the quay, now used as a prison for debtors and felons. A castle formerly stood on the west side of the town, and there is every reason to suppose Southampton was a place of some consequence among the Anglo-Saxons. The free grammar school was founded by Edward VI. There are also Lancasterian, national, and Sunday schools, and various charitable endowments and institutions. On the north of the town is a well-conducted military asylum for the orphans of soldiers, which contained about 380 boys. About seven years since the boys were removed to Chelsea, and have been replaced by girls, also the orphans of soldiers. A handsome and convenient market-house is situated in the high-street, and there is another large market in Bridge Street. The custom-house fronts the Southampton Water. There are few manufactures carried on in this town; a silk-throwing factory gives employment to some of the labouring classes, and the business of ship-building occupies a few. The trade is rather extensive, consisting chiefly in corn, wine, brandy, timber, stone, and coals. Hemp and tallow are imported from Russia; tar and pitch from Sweden; wine and fruit from Portugal. Iron is brought from Wales; coals and lead from Newcastle. A large quantity of wool is annually exported to Guernsey and Jersey, part of which is returned knit into coarse hose. Many small vessels are built here, and some steam-packets belong to this place, which sail regularly to France, Jersey, Guernsey, &c. Some of the finest yachts of the "*Royal Yacht Squadron*" are built in the mouth of the Itchin. There are a theatre, assembly-rooms, and other amusements for the summer visitors, with convenient baths near the west quay, and also near the Itchin Ferry. There are also excellent hot baths in the town. The town is well supplied with water from reservoirs on the neighbouring common, where a new one upon a much larger scale than the rest has lately been made. They have also lately succeeded in boring through to the main spring, and water will now be supplied from this source.

This town is much frequented as a watering-place, though the bathing is very indifferent, and the bay in summer is very offensive at low water owing to the muddy bottom. A very handsome pier was completed and opened last spring (1835). It extends far beyond low-water mark, and the steam-packets run alongside and disembark passengers during the lowest tides. At the same time great quantities of the mud have been raised and carried away by means of steam-engines.

The ruins of Netley Abbey, about three miles from Southampton, stand on the gentle declivity of a hill rising from the water and are surrounded by trees. This abbey was founded in 1239, by Henry III. The chapel, with its north and south transepts, 200 feet long, and 60 broad, is still standing. A spiral stone staircase near the south transept conducts to the upper part of the ruins, where a few Gothic arches and pillars are still standing. Near the chapel is the fountain court, a spacious area with buildings on each side; there is also space for a large garden, with a terrace walk, and various out-buildings in ruins.

Portsmouth, the principal seaport in the English channel, seventy miles south-west of London, is situated on the east entrance of Portsmouth Harbour. This haven is capacious enough to contain nearly the whole of the English navy; the anchorage is good, and the harbour is so deep and well sheltered on all sides, that the largest ships may ride securely at all times. It is defended by numerous strong batteries, particularly towards the open sea. The fortifications of the town, begun in the reign of Edward IV., have been gradually improved and extended. Portsmouth consists of the old town of Portsmouth included within

the fortifications, and the new town of Portsea, which had its origin about a century back. Portsea is to the north of Portsmouth, and already surpasses in size, population, and importance, the old town, the limits of which were bounded by its fortifications. In the new town is the dock-yard, which is the largest in the kingdom. Its sea-wharf wall extends 3500 feet along the shore of the harbour from south to north; its mean breadth is about 2000 feet, and it covers 100 acres. The great basin, which has its entrance in the centre of the wharf wall, is two acres and a half in area, 380 feet in length, and 260 feet in breadth: four dry docks open into this basin, and on each side is another dry dock, all capable of receiving first-rate ships. Besides these, there is a double dock for frigates. There are also six building-slips, two of which are capable of receiving the largest vessels.

The dock-yard, which is entered from the town through a gateway, contains the royal naval college, and opposite to it a handsome building for a school of naval architecture, recently established. There are also the Port Admiral's house, residences for the officers of the yard, immense ranges of storehouses and workshops for almost every article required in ship-building. At one part hundreds of anchors are ranged one above the other ready for immediate use; close to these is the ropery, a large building three stories high, 54 feet broad, and 1094 long. The two hemp houses and the two sea-store-houses occupy a line of building 800 feet in length: the other storehouses are on the same scale. There is a smithy, an iron and a copper-mill, a copper refinery, and wood-mills, where every article of turnery requisite for naval purposes is made. Here also is the machinery for making blocks invented by Brunel *. Portsmouth is the grand naval arsenal of England. The gun-wharf consists of numerous and various ranges of buildings for the reception of guns and all kinds of naval ammunition. In the old part of the town are the Lieutenant-governor's house, and the marine and military barracks. Portsmouth parish church is a large ancient building. The parish church of Portsea is two miles from the town, which contains several chapels of ease, besides ten or twelve meeting-houses. The town-hall of Portsmouth is a mean building, standing most inconveniently in the middle of the High-street: beneath it is an open space which is used as a market-house. In the western suburb is the custom-house. The prison, of modern erection, is commodiously arranged. A free grammar-school was founded here in the last century, but the funds are not now applied to useful purposes. A school is established on the national system for receiving 1000 boys and girls. A theatre, assemblies, and occasional concerts contribute to the amusement of the inhabitants. Near the town on the east is Southsea, a good bathing place, much resorted to by strangers in the summer season. It contains a chapel of ease and several dissenting places of worship. Portsmouth sends two members to parliament, and is one of the polling places for the county: the parliamentary borough contains the whole parishes of Portsmouth and Portsea, besides Portsmouth Harbour.

Gosport is situated on a projecting point of land on the west side of the entrance to Portsmouth Harbour. A creek on each side affords excellent anchorage; which circumstance, and its vicinity to Portsmouth, have raised the town into importance. Gosport is regularly fortified on the land side, and contains numerous government works for the supply of the navy, and extensive barracks. The principal street extends eastward from the fortifications to the harbour. To the north of the town is the Royal Clarence Victualling Yard, containing a steam-mill, an extensive range of store-houses, and a very fine wharf *: here was erected the first machinery for the purpose of making biscuits for the navy. In the same direction are large powder magazines. There is an extensive iron foundery for the making of anchors, and other articles appertaining to shipping. To the south of the town, from which it is separated by a creek, stands Haslar Hospital, a royal endowment for sick and wounded seamen. The building is surrounded by a high wall, nearly a mile in circumference, and has a frontage of 570 feet, with wings, each 550 long: this building can afford accommodation to 2000 patients. Within the enclosure is a chapel, and buildings for

* See Chatham, p. 197.

* The victualling premises at Portsmouth were sold a few years since, and almost a new establishment built on the Gosport side.

the governor and other officers of the establishment. An iron bridge has recently been constructed across the creek. Gosport is a chapelry to the neighbouring parish of Alverstoke. It has a large Church of England chapel, one for Catholics, and four for dissenters; there are likewise charity-schools, and almshouses. The town is well lighted with gas. A watering place has recently been formed about a mile from Gosport, called Angleseyville, which is much frequented during the bathing season.

Fareham, a sea-port, on the northern shore of Portsmouth Harbour, is twelve miles east-south-east of Southampton. The prosperity of this place chiefly depends on its vicinity to Portsmouth, although it has some trade and manufactures. Cordage, sacking, and a coarse kind of pottery, are made here.

Lymington, a borough and sea-port town, on a creek close to the sea, is twelve miles S.S.W. of Southampton. It sends two members to parliament. The franchise was extended by the Reform Act, much beyond the former limits. The town consists chiefly of one long street: on the north side is the church, which separates the old town from the new; in the former the houses are old and irregularly built, the latter contains several good private dwellings. To the south are salt works, which were formerly much more important than at present. The enormous salt works in Cheshire have drawn off much of the trade of this place: bricks of a good quality are made in the vicinity. Lymington is included in the port of Southampton.

Christchurch, situated at the confluence of the Stour and Avon, is twenty miles south-west of Southampton. The two members formerly sent to parliament were, by the Reform Act, reduced to one, and the parliamentary borough now extends to a much larger district. The church, from which the town derives its name, is said to have existed before the time of Edward the Confessor. The transept on the north is part of the original Saxon structure; the tower and other parts are of later date, being rebuilt by a bishop of Durham in the time of William II. There is no trade or manufacture in the town. The Avon is noted for its salmon fishery, and on the coast there is a plentiful supply of various kinds of other fish. To the west of the town there are barracks.

Ringwood, a market-town on the river Avon, eighteen miles west by south of Southampton, is supposed to have been a Roman station, and in the time of the Saxons was a place of some importance. It contains one church, and some of the private houses are tolerably well built. Manufactures of woollen cloths and of stockings are carried on here. Ringwood is likewise noted for its ale and strong beer, a considerable quantity of which is annually exported.

Romsey, a borough on the Anton, on the road between Salisbury and Southampton, is eight miles north-north-west of the latter place. The church is a very old building, being the remains of an abbey founded here by Edward the Elder; having undergone many alterations and additions, it exhibits specimens of the architecture of different ages. On its roof an apple-tree grows which for many years has borne fruit. There is a meeting-house here for Presbyterians, a free-school, and almshouses and a gaol. There are several paper and corn-mills in the neighbourhood, and in the town manufactures of sacking and shalloon, but the manufactures are much diminished or entirely gone. The four last mentioned towns are all polling places for the county.

Hayling Island, in the bay east of Portsmouth, is separated from the main land on each side by a channel about a mile broad. It contains two rude parish churches, which are of great antiquity. There are several creeks on the east coast, and the beach all round this fertile little island is exceedingly fine. Hayling is now becoming a summer resort for families from the metropolis and other towns. It is connected with the main land on the north side by a wooden bridge.

Spithead, the channel between Portsmouth and the Isle of Wight, is an excellent roadstead for shipping, and is said to be capable of holding 1000 vessels in perfect security. The depth of water at low tide is from ten to sixteen fathoms.

The Isle of Wight (the Roman Vectis), which belongs to Hampshire, measures from the extreme east to the extreme west point, nearly twenty-three miles, and from north to south thirteen. The area is estimated at about 105,000

acres. The surface of the island is very diversified.

The general level of the surface is considerably elevated above the sea, to which its coast on every side presents either perpendicular cliffs or steep slopes. Many parts rise to a considerable height. On the south is the highest land, which runs from Dunnose on the east to St. Catherine's Hill on the west, being about six miles in length. The next highest elevation is a range of chalk hills, which goes through the centre of the island nearly due east and west, about twenty-two miles in length. This range does not run exactly in a straight line, nor is it of uniform breadth. From Culver Cliff on the east (near which it is interrupted by the Brading) to Arreton Downs, a distance of about seven miles, the high ground lies nearly in a direct line: it is here a single ridge, and in general narrow at the highest part, falling with an abrupt slope on each side. From Arreton Downs its elevation decreases, and the hills take a general northern direction. At Carisbrook the range makes a sudden bend towards the south, and runs nearly in that direction for three miles. The chain is here double, and sometimes triple. At Brixton Down the range resumes its western course; and from Mottiston Down to the Needles, the extreme western point, it runs nearly in a straight line, a distance of about nine miles, being very narrow at the top, with steep slopes to the north and south, till it enters the sea, where it presents on each side the high cliffs of Freshwater and Allum Bays. This range of chalk hills is divided by three great depressions, each descending to the level of the sea: the most easterly, which is between Yaverland and Brading, is about three quarters of a mile wide, and through it the waters of the south-east valley pass to the sea. The second, situated between St. George's Down and Carisbrook, which is about half a mile in width, contains the bed of the Medina. The third occurs at Freshwater Gate, and is scarcely 100 yards wide: here the Yar river has its source. Besides these three, there are several smaller depressions. The highest point of this range of hills, at Mottiston Down, is 698 feet above the level of the sea. On the west, forming the boundary of Colwell and Tolland Bays, there is a chain of clay hills, rising about 400 feet above the level of the sea; the land which divides the vale of Medina from the south-east basin is likewise in several parts of considerable elevation.

The principal rivers are, the Medina, the Brading, the Yar, the Wooton, and the Newtown. There are likewise several smaller streams; and various creeks and bays run up from the sea. The Medina takes its rise in the high lands of the south, and runs due north to Newport and thence to Cowes, where it enters the sea. The Brading has its source in the same range of hills, and taking a north and north-east course, passes by Newchurch and Brading; at the latter place it swells into a wide æstuary, called Brading Water, which forms a harbour on the extreme north point of its entrance. The three remaining rivers are small streams flowing into the sea near Yarmouth, Wooton, and Newtown, respectively.

The prevailing soil of the island is a strong loamy earth, extremely fertile.

Grain is grown in large quantities, formerly computed to be more than seven times the consumption of its inhabitants. Wheat, barley, oats, beans, and peas are the principal crops. The artificial grasses, turnips, and potatoes, are also cultivated. The elevated land is chiefly appropriated to sheep-walks. The climate, which is extremely healthy and favourable to vegetation, is so mild that the myrtle of the south flourishes here as on its native soil; and the luxuriance of vegetation is shown by the numerous natural plants and flowers. The central parts of the island are liable to frequent rain in consequence of the high range of hills which attract the vapours.

The higher parts of the island are composed of calcareous matter on a stratum of argillaceous schistus, which forms nearly the substratum of the whole island. In a bay to the north of the Needles, native alum is found in large quantities. Red and yellow ochres are likewise observed here. Immense beds of micaceous sand are found about Freshwater; great quantities of which are annually exported, for the supply of the glass and china manufactories of London, Bristol, and Worcester. Several chalybeate springs have been found in different parts of the island. Fish abounds on the coast,

especially shell-fish. Numerous marine birds find shelter in the cliffs on the south, and are taken by the country people.

The Isle of Wight is divided into two hundreds, called East and West Medina, which contain thirty parishes. It returns one member to parliament.

Newport, the chief town of the island, is nearly in its centre, in East Medina, on the banks of the navigable river of that name; it is seventy-eight miles south-west of London. Newport is a borough, and sends two members to parliament; the franchise has lately been extended on the south-west to nearly double its former limits, includ- ; "New Village," about a quarter of a mile from the town, which consists of several new rows of houses and detached villas. The town is built on a very regular plan, and consists of five principal streets, running parallel from east to west, and three or four others intersecting them at right angles. Some of the houses are very good; they are mostly built of brick. The town is well lighted with gas. The market-place and town-hall situated over it, and the Literary Institution, are among the chief public edifices. The gaol for the whole island is in the borough. There is a theatre and handsome assembly-rooms. A free grammar-school was founded 1619. In the room Charles I. discussed with the parliamentary commissioners, the negotiations which ended so fatally for himself. Two Sunday schools are likewise established here. Lace is made near the town, but the principal business of the place arises from its being the market-town of the agricultural and grazing district about it. Carisbrooke, about one mile from Newport, contains an ancient, and formerly the most important fortress in the island, which stands on a conical eminence, and occupies about twenty acres of ground. Here Charles I. was imprisoned. The castle is now in ruins, but the wall of the chamber in which King Charles was confined still remains. The well of the castle is remarkably wide, and 300 feet deep.

Cowes, West and East, are four miles north of Newport, at the mouth of the river Medina. The harbour is safe and commodious, to which circumstance alone Cowes owes its importance. West Cowes stands on the declivity of a hill; its streets are narrow, but the buildings rising one above another, on the brow of the hill, give to the place a picturesque effect. The trade of Cowes is chiefly in provisions and other articles for shipping. It has likewise become a resort for sea-bathing, and the rendezvous of the Royal Yacht Club. In the season, packets pass two or three times a day between this place and Southampton and Portsmouth.

East Cowes, an irregularly built hamlet on the opposite side of the river, contains a small custom-house. In the neighbourhood are several handsome residences.

Yarmouth, *Eremuthe* in the old charters, a small sea-port and ancient borough, nearly eight miles due west from Newport, bears traces of having been formerly of greater importance than at present. It has a castle and a garrison, and once had three churches, now reduced to one. It was disfranchised as a parliamentary borough by the Reform Act. There is a neat market-house with a hall over it, and a quay, where vessels of small burthen can load and unload: but the trade is very inconsiderable. Passage-boats sail between this place and Lymington, a distance of four miles and a half.

Ryde is six miles E.N.E. of Newport, and nearly opposite to Portsmouth: one part of the town stands on an eminence; the other part, or lower town, is built near the shore. Here are two chapels of ease, two meeting-houses, a charity school, and a theatre. A pier extends a quarter of a mile into the sea. Ryde is now much visited in summer as a watering-place; at low water there are fine sands.

Newtown or Francheville, an old decayed parliamentary borough, disfranchised by the Reform Act, stands on the river Newtown, which is between Cowes and Yarmouth, and is considered to form the best harbour in the island. It was burnt down by the French in the time of Richard II.; before which date it is supposed to have been a place of great trade. This little town furnishes one of the most striking instances of the decayed condition to which many of the English boroughs have sunk. The commissioner who visited the borough, to inquire into the state of the municipal corporation, reports that the houses, which are mere cottages, are fourteen in number. The population, in 1831, was thirty males, and thirty-eight females. The income of the borough

from fee farm rents, quit-rents, and a rent reserved on a lease of the oyster-fishery, amounted to 14*l.* 18*s.** This little property has, in a spirit which does honour to the corporation, been recently sold, and the proceeds applied towards the rebuilding of their ancient church.

Brading, at the outlet of the Brading river into Brading Water, is another decayed borough, the corporation of which has an income of about 7*l.* per annum†.

Population of boroughs and market-towns in Hampshire:—

Winchester	9212
Southampton	19,324
Portsea	38,199
Portsmouth	8083
Gosport	12,637‡
Christchurch	5344
Andover	4748
Lymington	3361
Basingstoke	3581
Alton	2742
Romsey	5432
Fareham	4403
New Alresford	1437
Kingsclere	2532
Whitchurch	1673
Stockbridge	851
Ringwood	4382
Bishop Waltham	2181
Havant	2083
Petersfield	6423
Fordingbridge	2611
Odiham	2647
Hambledon	2026
Isle of Wight:	
Newport	4081
Yarmouth	586

Authorities.

General View of the Agriculture of Hampshire.

Englefield's Walks in Southampton.

Andrew's Guide to Southampton.

Warner's Topographical Remarks on Hampshire.

Milner's History of Winchester.

Englefield's History of the Isle of Wight.

Warner's History of the Isle of Wight.

BERKSHIRE

Is an inland county, bounded on the south by Hampshire, on the west by Wiltshire, on the north and north-east by Oxfordshire and Buckinghamshire, and on the south-east by Surrey. Its figure is very irregular in consequence of the windings of the Thames, which forms its northern boundary for above 100 miles, from Lechlade to a few miles below Windsor. The extreme length from east to west is forty-two miles; its smallest dimension from east to west nineteen miles. Its greatest length from north to south is about thirty miles; its least eight miles: its circuit is 208 miles, including an area of 756 square miles; the whole of which is within the basin of the Thames. A small portion of Berkshire lies on the north of the Thames, surrounded by Oxfordshire.

A native tribe called Atrebates are the earliest known inhabitants of this county; in the south-east part of it were the Bibroci, from whom it seems not unlikely that the name of the county is remotely derived. Several Roman roads passed through this county, and it is said the Romans had three stations here. There are still vestiges of Roman buildings, and some Roman pottery was discovered near Bagshot Park in 1783. The remains of some ancient camps are found in this county, which are supposed to be of British origin. At Letcombe there is one nearly circular, with a double vallum, inclosing an area of about twenty-six acres. Another at Uffington, about four miles S.S.E. of Faringdon, is considered by some antiquarians to owe its origin to the Danes. Many tumuli are dispersed on the Berkshire downs; a group of them is seen between Uffington and Lambourne, known as the Seven Barrows.

The face of the country is in general diversified with gentle elevations. A range of high chalk land enters the county on the west from Wiltshire, and takes nearly an easterly direction through the middle of it to Wallingford and Reading: the north-west part of this elevation forms the southern boundary of the fertile Vale of White Horse; and the whole mass of high land fills up a considerable part of the space between the channels of the Thames and the Kennet. The chalk of Berkshire stretches east as far as the elevation on which Windsor Castle stands, which is a solitary mass of chalk rising up in the midst of a great mass of clay that covers the adjacent

* See Commissioners' Reports, part ii. p. 713.
† Ibid. p 681.
‡ Alverstoke parish is included in this return.

parts of the county. The chalk also appears at Maidenhead, and opposite to Marlow in the great bend of the river between Reading and Windsor. The White Horse Hill, which stands near the head of the Vale of White Horse, is 893 feet high. A small tract of high land on the north side of the Vale of White Horse, consisting of shelly oolite, and calcareous and shelly sand, runs from near Faringdon to a little below Oxford. A considerable portion of the eastern part of this county is occupied by Windsor Forest, estimated to be fifty-six miles in circuit, a great proportion of which is uncultivated ground, and includes a large part of Bagshot Heath.

The Vale of Kennet, next to that of White Horse, the most fertile part of the county, runs along the Kennet river, within the limits of Berkshire, from Hungerford to Reading, and is bounded on the south by the high land already described (p. 47). There is also a considerable tract of low land, much of which is laid out in meadows on the right bank of the Thames, within the limits of the county. The climate is in general pure and salubrious: in the more elevated parts the air is keen.

The principal rivers are the Thames, the Kennet, the Loddon, the Lambourne, and the Ock. The Thames, which separates this county from Buckinghamshire and Oxfordshire, is navigable as far as Lechlade (see p. 48), a small market-town in Gloucestershire, situated at the point where the four counties of Berks, Wilts, Gloucester, and Oxford unite. At Goring in Oxfordshire, the Valley of the Thames is contracted by the two opposite masses of high land in Berkshire and in the south-east part of Oxfordshire. The Kennet rises in Wiltshire, enters Berkshire at Hungerford, and continues an east direction through Newbury, and on to Reading, near which town it joins the Thames, after a course of about twenty-six miles in Berkshire. The Lambourne rises near Lambourne in the chalk-hills, and after a course of eleven miles falls into the Kennet at Newbury. The Emborn or Anborn rises in the chalk-hills on the south side of the Kennet, and joins the Kennet on the right bank, about seven miles below Newbury. The Loddon rises near Basingstoke, in Hampshire, and entering this county on the south, takes a north-east direction, and falls into the Thames near Wargrave, after a course of near thirty miles. The Ock is a small river, which rises in the Vale of White Horse, and falls into the Thames at Abingdon. The Kennet and Avon navigation commences at Reading, and extends to Newbury, from which point the canal passes into Wiltshire at Hungerford. This canal is forty-five feet in breadth at its surface, and five feet deep. The Berks and Wilts Canal commences at Abingdon, and takes a W.S.W. course along the Vale of White Horse into Wiltshire, where it joins the Kennet and Avon canal near Melksham: it is fifty-two miles in length, 27½ feet in breadth at the surface, 14 feet at the bottom, and 4½ deep.

At Cumner and Sunning Hill there are chalybeate springs.

The upper soil of Berkshire is various; but almost throughout the sub-soil is calcareous. On the hills it is covered with a very thin upper soil, clothed with fine turf. In the Vale of White Horse the soil is generally a grey calcareous loam, of great tenacity and fertility. The Vale of Kennet is mostly alluvial, resting on a gravelly bottom. The lower course of the Kennet passes between two hills, where the channel in former times was of greater elevation than the upper part of the vale, which was consequently nothing but a morass. As the obstruction became gradually lessened, and at length removed, the land was made available to the purposes of agriculture, and now produces luxuriant pasture: in the centre of the vale is a bed of peat, several feet thick. The agriculture of the county is not in general good, but in consequence of the great fertility of the soil in some parts the crops are very abundant. Excellent grain is raised in Berkshire, especially barley, which is principally made into malt, and sent in large quantities to London. There are many large dairy farms in White Horse Vale. In the south parts, and in Windsor Forest, the land is well stocked with timber, particularly oak and beech. Pipe and potter's clay are found in Berkshire in large quantities.

Berkshire is divided into twenty hundreds, containing 187 parishes and twelve market-towns. On the east are the hundreds of—Bray, Ripplesmere, Beynhurst, Wargrave, Cookham, Sunning, Charlton, Reading, Faircross,

Compton, Theal, Moreton, Ock, Hormer. On the west, the hundreds of — Ganfield, Faringdon, Shrivenham, Wantage, Lambtown, Kintbury Eagle.

Berkshire sends three members to parliament.

The borough of Reading, the county town, is situated on both sides of the river Kennet, near its junction with the Thames, about thirty-eight miles west of London. It sends two members to parliament. There are many excellent houses in Reading: the main streets are spacious, with good shops, and are well lighted with gas. It is a place of considerable trade, for which its situation is well adapted, as it has direct water-communication by the Thames with London, and by the Kennet and Avon canal with the Severn, and with Bristol.

It exports the produce of the surrounding country, which mostly consists of wheat of the best quality. Flour mills are situated on two streams which join the Kennet near the town, from which many thousand sacks of flour are sent annually to London. Timber, hoops, bark, wool, corn, and malt, likewise form articles of export. This town had formerly large woollen manufactories, but they have now entirely declined. There are at present manufactories of sail-cloth, sacking, pins, gauze and ribbon. The origin of Reading is unknown, but it is a place of great antiquity, and was a Saxon town prior to the invasion of the Danes, at which time, it is said, it was defended by a castle. Henry the First founded an abbey here, the remains of which show that it must have been once a building of great strength and extent. It appears to have occupied a circuit of nearly half a mile; the fragments of walls, chiefly composed of flint and gravel, are eight feet thick, and were formerly encased with stone. A priory of very ancient date is now converted into the Borough Gaol. There are three parish churches, besides other places of worship. Several charitable institutions (among them a blue coat school) have been founded at different times in this town. The grammar school was founded by Henry VII., and further endowed by Elizabeth. Archbishop Laud increased the salary of the master, and gave the scholars two fellowships in St. John's College, Oxford. Reading was much damaged by a siege during the civil wars of Charles I. Near the town there is a remarkable deposit of oyster shells, from 12 to 24 inches in thickness, embedded in a stratum of sea-sand 20 fathoms beneath the surface of a hill, and continued through five or six acres of ground.

Windsor, a borough on the banks of the Thames, sixteen miles east of Reading, sends two members to parliament. The Saxon name of this town was Windles-ofra or Windle-shora (in the charter of Edward the Confessor), probably, as Camden conjectures, from the winding of the river. Windsor is a very ancient place, and has been the residence of the English kings ever since the conquest. William I. formed the park, extended the boundary of the forest, and erected a palace, which Henry I. considerably improved and enlarged, and further secured by surrounding it with a strong wall. It continued to be the favourite residence of the kings of England during the subsequent reigns; and of Edward III., who nearly rebuilt the castle: the whole of the former edifice was pulled down, with the exception of three towers at the west end of the lower ward. Charles II. made great improvements and repairs; and in the two last reigns considerable alterations have been made. The most recent improvements have been effected under Sir J. Wyatville.

Windsor Castle stands on an eminence at the foot of which flows the Thames. The views on every side are beautiful and extensive; on the north side of the castle there is a terrace, near 1000 feet* long, faced with a rampart of freestone: the whole length of the north, east, and south terraces is 1870 feet. The north terrace occupies the edge of the eminence which slopes rapidly to the level grounds on the banks of the Thames. The buildings and courts of the castle (exclusive of the terraces) occupy above twelve acres, and form two courts or wards, an upper and lower: a large tower or keep stands between the two wards. The upper ward or court has the round tower on the west, and contains the royal apartments to which visiters are allowed access; St. George's Hall and the Chapel Royal on the north; and on the east and south the private apartments of the king and queen, and household. On the west side of this upper square is an ill-made equestrian

* See Hakewill's Windsor, 1813.

bronze statue of Charles II. The great round tower is built on a high mound, and is ascended by a flight of stone steps; it contains the governor's apartments, which command a most extensive view of all the surrounding country. The lower court, which is more extensive than the upper, is divided into two parts by the Collegiate Chapel of St. George, a noble Gothic structure which stands in the centre. On the north or inner side of this ward are the residences of the dean, canons, and other officers of the chapel; and on the south and west sides of the outer part are the houses of "the Poor Knights of Windsor." St. George's Chapel, a beautiful specimen of ornamental Gothic architecture, was erected* by Edward III., but it owes much of its present magnificence to the alterations and embellishments of subsequent reigns. George III. expended much money on its decorations. Adjoining the east end is a freestone building, commenced by Henry VII. as a burial place for himself and family; but afterwards changing his design, he began the more noble structure at Westminster. This edifice in consequence remained neglected till Wolsey began to prepare it as a mausoleum for himself, whence the building acquired the name of Wolsey's Tomb-house, which it still retains. James II. converted the building into a Popish chapel, but from that time it was unappropriated and fell into decay, until the reign of George III., when it was formed into a royal cemetery.

Windsor Little Park is contiguous to the castle, and is inclosed by a wall four miles in circuit: it contains about 500 acres. The ground forming the declivity of the hill on the north terrace of the castle is laid out with shrubs and flowers, and is called, from its situation, the Slopes.

On the south side of the town is the Great Park, well stocked with deer: it was fourteen miles in circumference, but a few years back was much enlarged by the Inclosure Act. It is intersected by several roads, the principal of which is the Long Walk, an avenue of trees, some of which are of large size, extending nearly three miles in length from the castle to the equestrian colossal statue of George III. The artificial lake called Virginia Water, which is in the park, is a handsome piece of water: it consists chiefly of one long, broad sheet, with various narrow arms or branches, over which there are several bridges; one of these is formed by a single arch, 165 feet in span.

The town of Windsor consists of six principal, and several smaller streets; the former are well paved and lighted. The present church is a neat, modern edifice, which was built in 1822: the guildhall or town-house, erected in 1686, is a handsome building supported by pillars and arches of Portland stone. The hall or court-room contains portraits of several kings of England, and other personages of rank. This town contains a free-school, and several charitable institutions. The bridge over the Thames, by which it is connected with Eton, was erected in 1824, and consists of three cast-iron arches resting on granite piers. It is 200 feet long, and 26 feet wide. Barracks both for infantry and cavalry are situated to the south of the town. Windsor is sometimes called New Windsor, to distinguish it from the small village called Old Windsor, which is in the neighbourhood of the town.

Wallingford, situated on the river Thames, thirteen miles N.N.W. of Reading, is a borough, which till recently sent two members to parliament: the number is now limited to one, and the elective franchise is extended beyond the ancient boundaries of the borough. This place, which was formerly of much more importance than at present, is of great antiquity, and was once a walled town with a strong fortress. Some of the vestiges of its ancient castle still remain near the river. The bridge over the Thames is considered one of the oldest on the river, but the date of its erection is uncertain; it is above 300 yards long, formed of stone, with nineteen arches and four drawbridges. Wallingford is at present a small neat country town, consisting of two principal streets and other smaller ones; it contains three parish churches, besides other places of worship: according to Leland, it had once fourteen churches. No manufacture is carried on here. There is a small corn-market once a week, and the matting trade occupies some of the inhabitants. The town contains a grammar-school, and has some bequests for charitable purposes.

* Or "finished" perhaps. See the grant of Edward III. to the College in Ashmole's Appendix.

Abingdon, a borough near the confluence of the Ock and the Thames, twenty miles north-west of Reading, sends one member to parliament. The town consists of several well-paved streets, with a spacious market-place and market-house in the centre. There are two parish churches, besides dissenting chapels. The summer assizes for the county are held at Abingdon, and it is likewise the place for the court of election for the county. It has a free grammar-school, and several charitable institutions. The corn-market is considerable; and from its connexion by canal navigation with Bath, Bristol, and London, Abingdon is well calculated for inland trade. There are large wharfs and warehouses near the canal. During the late war it had extensive manufactures of sailcloth, sacking, and other coarse goods of a like description; but owing to similar establishments rising in the north of England and in Scotland, these fabrics are now materially diminished. It is however stated (Municipal Corporation Reports) that the sacking manufactory is on the increase. Abingdon, which originally seems to have been called Sheavesham, derived its present name from an abbey, originally founded by Cissa, king of the West Saxons, which afterwards became one of the richest abbeys in England.

Faringdon, situated on an eminence about two miles from the river Thames, and twenty-nine miles north-west by west of Reading, is a very ancient place: the Saxon kings had a palace here. The church is a large handsome building in the earliest style of Gothic architecture. The chief trade of the town is in hogs and bacon.

Hungerford, a market-town in the south-west angle of the county, on the Kennet, twenty-three miles west of Reading, principally consists of one long street, near the centre of which is the market-house and shambles. This town has considerable traffic by means of the Kennet and Avon canal.

Newbury, a market-town on the Kennet, and one of the largest in the county, is fifteen miles west by south of Reading. The Kennet runs through the centre of the town, which is surrounded by a fertile plain. The principal streets are arranged nearly in the form of the letter Y, the market-place standing in the centre angle; they are wide and well paved, and the houses are in general respectable brick dwellings. The market-place is spacious and well adapted for the extensive business transacted in it. This town is of very ancient date, anterior to the Norman invasion. Newbury was formerly celebrated for its woollen manufactures; but little cloth is now made, except serges and shalloons. The principal business of the town is malting. In the immediate neighbourhood are two small silk manufactories, and a paper-mill; on the river are several large flour-mills, from which great quantities of flour are sent, both east and west, by means of the inland navigation already described. The abundant supply of water, and the consequent establishment of flour-mills, has contributed to increase the corn-market, and generally to extend the trade of the town, which is now very considerable. Thirty-four coaches daily pass through the town*. The number of charities belonging to Newbury is very considerable. In the vicinity, in the vale of Kennet, is a peat moss sixteen miles in length and one in breadth, out of which peat is dug for fuel in large quantities. About a mile from Newbury is Speen, supposed to be the Spinæ of the Antonine Itinerary, and the mother town of Newbury (New Borough), which with reference to Speen may be appropriately so called.

Walkingham or Oakingham is situated within the precincts of Windsor Forest, thirty-six miles E.S.E. of Reading. The church is a large and handsome structure, and there are several charitable institutions and endowments.

Wantage, a market-town, situated on the borders of the Vale of White Horse, is twenty-two miles north-west of Reading. Wantage is a very ancient town, supposed to have been a Roman station, and well ascertained to have been a place of consequence in the time of the Saxons. It was the birth-place of Alfred, while it was a royal residence. Not far from Wantage are the remains of an ancient Roman camp. A manufacture of sacking and foul weather cloth is carried on here. The free grammar-school was founded in the reign of Henry VII. Near Wantage is the figure of a horse cut on the brow of a chalk-hill, whence the Vale of White Horse takes its name. The outline of the figure is cut in deep trenches, and the upper soil

* Municipal Corporation Report.

being taken off, the White Horse becomes a prominent object for miles round. It is represented in a galloping position, and covers nearly an acre of ground. This figure is ascribed to the time of Alfred, and antiquarians have indulged in many speculations on the subject. Its high situation and the barrenness of the soil give it complete security against the inroads of the plough and the grazing of cattle. The peasants of the surrounding country have a custom of assembling at stated periods for the purpose of clearing the figure of weeds, and of otherwise continuing it in its ancient form. This is called "scouring the horse," and is attended with a rustic festival *. There is a similar white horse near Marlborough on the Bath road.

Maidenhead, a market-town twelve miles E.N.E. of Reading, is situated near the Thames, on the road to Bath and Oxford. It consists principally of one long street, the houses in which are tolerably well built, extending west from Maidenhead Bridge about one mile, and forming the boundary of the parishes of Cookham and Bray: the north side of the street is situated in the former, and the south side in the latter parish. The Bristol, Bath, and Exeter branch of the Great Western Road crosses the river Thames at this place, by a handsome stone bridge of thirteen arches. The Great Western Railway will pass the Thames by a bridge of three arches, about 500 yards south of the old bridge, and run parallel to the turnpike road, skirting the town through its whole extent. A chapel, formerly a chapel of ease to the two parishes of Bray and Cookham, a foundation of great antiquity, has been lately rebuilt: the edifice is commodious and handsome, and capable of accommodating from 800 to 1000 persons. The endowed charities are numerous; and the national school for boys and girls is upon a liberal scale. The guildhall and market-place is a good stone edifice. The market is held on Wednesday, and the sale of corn is very considerable. The neighbourhood is populous, and a good retail trade is carried on in the town. This part of the valley of the Thames consists of a thin alluvial soil, resting upon a bed of gravel; the higher ground in the neighbourhood—the range of Taplow and Cliefden Woods eastward, and Maidenhead Thicket to the west—is a part of the chalk formation.

* See Wise's Observations on the White Horse, in Letters on Berkshire Antiquities.

Population of market-towns in Berkshire in 1831:—

Reading	15,595
Windsor	7103
Abingdon	5259
Hungerford	2283
Faringdon	3033
Newbury	5977
Wallingford	2467
Wantage	3282
Wokingham	2692
Maidenhead	2702
Lambourn	2386
East Ilsley	738

Authorities.

Ashmole's Antiquities of Berkshire.

Coate's History and Antiquities of Reading.

Wise's Letters on Berkshire Antiquities.

Hakewill's History, &c. of Windsor.

Pearce's General View of the Agriculture of Berkshire.

OXFORDSHIRE

Is an inland county, bounded on the east by Buckinghamshire, on the south-east, the south, and south-west by Berkshire, on the west by Gloucestershire, on the north-west by Warwickshire, and on the north and north-east by Northamptonshire. It is of a very irregular figure, partly owing to the winding course of the Thames, which forms the boundary line between this county and Berkshire. At the narrowest part, near Oxford, the county is only seven miles across; and its greatest width from east to west is only twenty-eight miles. Its greatest length from north to south is thirty-eight miles; its extreme length is fifty miles. Towards the north it terminates in a point at what is called the Three Shire Stone. The area of the county is estimated at 752 square miles.

The appearance of the county is very different in different districts. On the south there is an agreeable alternation of high and low land: in the south-east angle it is traversed by part of the ridge of the Chiltern hundreds, which commencing at the southern extremity of the county run in a north-east direction into Buckinghamshire. These hills are in many places covered with planta-

tions of beech, and are sometimes cultivated on declivities which formerly were considered incapable of being ploughed. The central part is generally a level country, thickly interspersed with woodland, consisting of forests, coppices, and plantations. The northern division, particularly in the western part bordering on the prolongation of the Cotswold hills, is elevated and stony, almost destitute of wood, and presents a barren and uninteresting appearance. The fields, instead of being separated by hedges, are enclosed by stone fences, and the barrenness of the country is unrelieved by any agreeable object.

There are few counties so well watered as Oxfordshire. Some writers enumerate seventy streams, which either take their rise in this county, or flow through it; but few of them are of sufficient importance to be called rivers. The principal are the Thames, with the Isis, the Windrush, the Cherwell, and the Thame, all of which enter the Thames in different parts of the county. The Thames, here properly called the Isis or Ouse, enters the county near Lechlade, from which place it is navigable by vessels of ninety tons. It takes a winding course along the margin of the county, first to the east, then turns to the north for a short distance, and thence bends to nearly a southern direction: near Reading it turns north again, and quits the county at Henley. The whole course of this river from Lechlade to London is 138 miles. The Windrush rises in Gloucestershire, enters Oxfordfordshire a little to the west of Burford, takes an east course inclining to the south to Witney, and falls into the Thames above Langworth, about five miles S.S.E. of Witney. The Cherwell rises in Northamptonshire, and taking nearly a southerly course, passes by Banbury to Oxford, where it joins the Thames. The Thame rises on the north-west escarpment of the chalk-hills near Tring in Hertfordshire, enters Oxfordshire from Buckinghamshire at the town of Thame, and taking first a west and then a south direction, passes to Dorchester, where it falls into the Thames; from this point the Thames entirely loses its other name, the Isis.

Oxfordshire is very little of a manufacturing or trading county. It has, however, been much benefited by the Oxford canal which enters the county near Three Shire Stone, passes Banbury, and follows the valley of the Cherwell. The Oxford canal was begun in 1769, but was not completed until 1790, owing to the want of funds: it is ninety-one miles long, has forty-two locks, and is crossed by more than 250 bridges. One of its aqueducts, Pedlar's bridge, is formed of twelve arches, each 22 feet in span. The width of this canal is 28 feet at the surface of the water, and 16 at the bottom; the depth is 4½ feet. By this canal a water-communication is opened between the Thames at Oxford, and all the canals of central England, and consequently with the basins of the Severn, Wash, and Trent. There are several medicinal springs in Oxfordshire: one has lately been discovered near Oxford.

The soil of the northern division, though unpromising in its aspect, is said to be the most fertile in the county; it is a deep, sound, red earth, friable, yet sometimes tenacious, and repays well the labour of cultivating suitable crops. This tract comprises about 80,000 acres. The soil of the middle division consists mostly of a loose dry friable sand or loam, apparently formed of abraded stones, chiefly limestone; and hence Mr. Young distinguishes this district as the Stonebrash, which he estimates as containing 164,023 acres*. Almost the whole of this district is inclosed, and is well adapted to turnip husbandry and the cultivation of wheat. There is some rich pasture land on the banks of the streams. To the west of this district is Wichwood Forest, which comprehends more than 6720 acres, and consists of oak, ash, beech, and elm.

The Chiltern district on the south-east is a sandy loam intermixed with flints on a sub-soil of chalk; this part contains 64,778 acres. There are various soils of other kinds, from loose sand to heavy clay, scattered about the country: the surface which these soils occupy is calculated at 166,100 acres. The climate is salubrious, but in general cold. The principal crops are wheat, barley, oats, turnips, and the artificial grasses. Lentils, rape, cabbages, carrots, potatoes, and chicory, are partially cultivated; rhubarb is also grown near Drayton. Hemp, flax, and hops, were formerly raised in considerable quantities, but their cultivation is now almost entirely abandoned. The pastures

* Young's Agricultural Survey.

are little used for fattening cattle, but are mostly appropriated to dairy-farms, where much butter is made, but only a small quantity of cheese. Many calves are reared for the London market. There are no mineral productions of any value in this county. Freestone, limestone, and slate, are found in considerable quantities; and in the forest of Shotover, about four miles from Oxford, excellent ochre is obtained. The clay in the neighbourhood of Oxford was formerly used by the potters; but that of Staffordshire is so superior, that it has entirely superseded the Oxford clay.

Oxfordshire is divided into fourteen hundreds, containing one city, twelve market-towns, and 273 townships and parishes. The hundreds commencing at the south-east are—Binfield, Langtree, Ewelme, Pirton, Lewknor, Thame, Dorchester, Bullington, Ploughley, The Liberty of Oxford: at the south-west — Bampton, Chadlington, Banbury, Wooton, Bloxham. This county sends three members to parliament.

Oxford, an ancient city, and the county town, is separated from Berkshire by the river Thames, there properly called the Isis. It is fifty-two miles west by north of London. The city sends two members to parliament: the franchise extends to a considerable distance, and over a large rural district; towards the north-west, the limits run nearly four miles from the town, including fourteen parishes.

Much of the early history of Oxford may be considered traditionary, but there is little doubt that it was a town of importance at the close of the ninth century. The name is supposed to have arisen from there having been here a ford for oxen: the old Saxon name is Oxenford, and even in Chaucer it is so written. This city was once surrounded by a wall extending in an elliptic curve about two miles, with bastions at intervals of 150 feet; a few portions remain in a remarkably perfect state. The buildings of the town have increased much beyond the limits of the old walls, and include with the suburbs a circuit of three miles, extending a mile and a quarter from east to west, and nearly as much from north to south.

Oxford is situated near the confluence of the Thames and Cherwell. The Thames flowing from the north-west, and the Cherwell from the north, inclose the town in a narrow peninsula, bounded on three sides by the two rivers. Between the two rivers runs the Oxford canal. Along the Thames and Cherwell at Oxford there is a tract of rich meadow land. The city has a striking appearance as it is approached, owing to the number of its public edifices, and the towers and spires of the churches. The principal street, called the High Street, runs from Magdalen Bridge over the Cherwell, with a slight bend, nearly due west. It is a wide, handsome street, containing part of Magdalen College, and the fronts of Queen's College, University College, All Souls' College, and All Saints' Church. The High Street is at right angles to the other principal street, from both of which other streets diverge in various directions; some of the smaller streets are narrow, but they are all well paved and lighted with gas. The gas-works are on the banks of the Thames, to the south-west of the town. The private houses of a second-rate class, many of which are of ancient date, are built in an irregular and inconvenient manner: the more modern houses, which are very numerous, are well built and convenient. It is said that Alfred* revived, or, as others suppose, founded, the University of Oxford; but though, from the time of Alfred to the Norman conquest, Oxford may have been, and no doubt was, distinguished for its schools and monastic establishments, there is no evidence to show that there was a corporate body with the name of a university, till some time after the reign of William I. Many new halls were erected in the reign of Richard I.; and in the succeeding reign there were 3000 students. In the reign of Henry III. it rose to still greater importance, and about this time colleges were built and endowed, it having been the practice hitherto for the teachers and students to lodge and study in houses and halls rented from the townsmen. Since this time the university has gradually risen to its present state. It now contains twenty colleges and five halls: each of the colleges is a lay incorporation. The University is represented by two members in parliament.

1. All Souls' College, founded by Archbishop Chicele, in the year 1437, consists of two spacious courts, one

* See the authorities quoted by Camden: Oxfordshire.

opening on the High Street, and the other on the paved court in which the Radcliffe Library stands. The front towards the High Street is rather low and irregular, but has been recently restored. The interior presents a better appearance. The other new and extensive quadrangle, which was erected in the beginning of the last century, is 172 feet in length, and 155 in breadth. It contains the beautiful chapel (with an altar-piece by Raphael Mengs) and hall on the south side; the cloister and principal entrance on the west; the Common Room and other apartments on the east; and a splendid library on the north. These buildings are all of very handsome elevation, and mostly in the mixed Gothic style of architecture. The interior of the hall is ornamented with statues, paintings, and busts. The library is 198 feet by 32½, and 40 feet high: it contains about 110,000 volumes.

2. Balliol College is generally said to have been founded in 1263, by John Balliol; but it appears to have been really founded by his widow, Dervorguilla, about 1282. None of the present buildings are of earlier date than the fifteenth century. The architecture of this college is very irregular. The east and south-east sides from the gate of the principal quadrangle, were entirely rebuilt in the beginning of the eighteenth century. This court is 120 feet long, by 80 in breadth. Besides this quadrangle, there is an area on the north-west containing lodgings for the students; also, a new building at the south-west angle, fronting the street, 108 feet long, and consisting of three stories. The library contains some valuable MSS.

3. Brasenose College, which was founded in 1509, by Sir R. Sutton, and W. Smith, Bishop of Lincoln, was built on the site of several ancient halls, among which was Little University Hall, supposed to have been founded by Alfred. It consists of an extensive quadrangle, a smaller court on the south, and a range of buildings, distinguished as the New Buildings, and the principal's lodgings. In the large court are the hall and apartments of the society; in the smaller court stand the chapel and library. The front of this college forms the west side of what is now called Radcliffe Square.

4. Christ Church College was founded in 1525, by Cardinal Wolsey; but upon his disgrace, Henry VIII. seized the revenues. After a few years, Henry re-established the college under his own name; and converted the ancient church of St. Frideswide into a cathedral. According to the last settlement of Henry VIII., the college became a mixed ecclesiastical and college foundation, or, more strictly speaking, an ecclesiastical endowment with a foundation for education annexed to it as in other cathedrals. The buildings of this college consist chiefly, besides the cathedral, of two spacious quadrangles, and two smaller courts. From the gateway in the centre of the west or principal front rises a tower, in which is suspended the bell called "Great Tom." The cathedral is supposed to have been built or completed about 1180, but parts are of much earlier date. The hall of Christ Church, built by Wolsey, is a fine specimen of his magnificent taste. Its roof of richly carved oak is profusely ornamented with the armorial bearings of Wolsey and Henry VIII. The dimensions are, 115 feet long, 40 broad, and 50 high: it contains a great number of portraits. The new library, forming the south side of the quadrangle called Peckwater, contains a considerable collection of paintings.

5. Corpus Christi was founded in 1516, by Fox, Bishop of Winchester. The building, which stands to the east of Christ Church, originally consisted of one large quadrangle, with a chapel, hall, and library; but various additions have since been made. This quadrangle is 101 feet by 80; it is entered under a lofty square tower, built in the time of the founder. The library of Corpus contains some very curious printed books and MSS. The altar-piece in the chapel is the Nativity, by Rubens.

6. Hertford College, once Hart Hall, was incorporated in 1740. From 1805, no principal could be elected, owing to the nature of the statutes. Hertford College has now ceased to exist: the site is occupied, under an act of parliament passed in 1816, by St. Mary Magdalen Hall; and a part of the endowment has been applied to the establishment of a university scholarship, called the Hertford University Scholarship, for the best proficient in the Latin Language.

7. Exeter College was founded in 1314, by Walter de Stapledon, Bishop of Exeter, who called it Stapledon Hall.

In 1404, Edmund Stafford, Bishop of Exeter, added two fellowships, and gave the college its present name. It has been built at various times, and the several alterations made have formed the whole into one extensive quadrangle, nearly 135 feet square, comprehending the hall, the chapel, the rector's lodgings, and the chambers of the society. The whole of the west front of the college, 220 feet in length, has recently been renewed with Bath stone. A handsome new building has recently been erected, facing Broad Street: the library is a modern detached building.

8. Jesus College was founded by Queen Elizabeth in 1571, at the petition of Hugh ap Rice, who gave to the college his estates for the maintenance of certain Welsh scholars: the funds have since been increased by different benefactions. The buildings consist principally of two quadrangles; the outer court is 90 feet by 70; the chapel stands on the north, and the hall on the east side: the second court is 100 feet by 90; the front towards the street was rebuilt in 1756. The library contains some curious books.

9. Lincoln College, founded by Richard Fleming, Bishop of Lincoln, in 1427, and afterwards re-established by Bishop Rotherham, consists of two quadrangles, the larger of which includes the library and hall, and was built soon after the founder's death. The smaller court, in which the chapel (containing splendid old coloured glass windows, the finest in Oxford) is situated, was not built until two centuries after that date. The library is said to be very valuable.

10. Magdalen College, founded by Waynflete, Bishop of Winchester, in 1456, is situated on the east side of the city near the Cherwell, and is altogether one of the finest range of buildings in the university. A lofty and finely proportioned tower, 145 feet high, and containing ten fine-toned bells, rises on the side fronting the High Street. The chapel is a beautiful Gothic structure, which was once disfigured by alterations made in a barbarous and incongruous style; but these have recently been removed, and nearly the whole choir, except the windows, has been restored in good taste. The altar-piece is the well-known painting of Christ bearing the Cross. The handsome building to the north of the great quadrangle was erected somewhat more than a century ago.

11. Merton College, to the east of Corpus Christi, one of the oldest in the university, was fixed at Malden in Surrey, in 1264, and removed to Oxford by Walter de Merton, Bishop of Rochester, in 1274. It consists of three courts. The chapel, which has a tower rising from the centre of the cross aisles, is considered a very fine specimen of old English architecture; it is situated at the west end of the outer court. The tower and gate of this outer court were constructed in the early part of the fifteenth century; the whole of the other part was rebuilt in 1589. The outer court opens by a noble arch into the large inner or golden court, which is 110 feet by 100. The third or small court is the oldest, being built in 1376; it contains the library, which is the oldest in the university, and possesses some valuable MSS. and curious printed books.

12. New College was founded in 1386, by William of Wykeham: it consists of a spacious quadrangle, about 168 feet by 129, which contains a chapel, hall, and library. A fine range of cloisters, extending 146 feet by 105, were consecrated, with the area within, in 1400, as a burial place for the college. There is also a range of buildings for the use of the students, termed the Garden Court, which was completed in 1684, and is said to have been built in imitation of Versailles. The chapel of New College, which is the finest sacred building that any of the colleges possesses, was repaired and in part restored about the close of the last century: the choir is 100 feet long, 35 broad, and 65 high; the antechapel is 80 feet long. This college was founded by William of Wykeham, for his scholars of Winchester College. All the scholars are elected from Winchester, and become fellows in two years; except founder's kin, who are fellows on admission.

13. Oriel College was founded by Edward II., in 1326: it consists of a quadrangular range of buildings, with two ranges on the east and west sides respectively of the garden, between which is the library, an elegant modern building, by Wyatt. The library contains a good collection of books.

14. Pembroke College, originally Broadgate Hall, was founded in 1624, by Thomas Tesdale and Richard Wightwick: it consists of a small, neat quad-

rangle. The chapel attached to it, and erected in 1728, is an elegant building of the Ionic order. This college has been recently repaired and improved.

15. Queen's College was founded by Robert de Eglesfield, in 1340, but the present buildings are of modern date. They consist of two spacious courts, divided by the hall and chapel, and composing an oblong of 300 feet in length and 220 in breadth. The interior of the chapel is embellished with ornaments of the Corinthian order. The library, which is a noble room, 123 feet by 30, contains about 18,000 volumes.

16. St. John's College was founded in 1557, by Sir Thomas White, an alderman of London: it is situated on the north entrance of the city, and has in front a wide terrace and a row of lofty elms. It consists of two quadrangles. The inner court, of more modern date than the first, was built in 1635, from a design furnished by Inigo Jones. The general style of the chapel is modern; the screen and altar are of the Corinthian order, richly yet simply ornamented. The fellows of St. John's, with the exception of thirteen, are elected from Merchant Taylors' School, London.

17. University College, said to have been founded by Alfred in 872, and restored by William of Durham in 1249, is situated on the south side of High Street. It consists of two quadrangles. The library, erected in the latter end of the seventeenth century, contains some valuable MSS. and printed books.

18. Wadham College was founded in 1613, by the widow of Nicholas Wadham, who left property for that purpose: it consists of one quadrangle, about 130 feet square. The hall and chapel are on the east side; the library and chapel extend eastward, and form two sides of an inner garden or court. The hall, one of the largest in the University, is a finely proportioned room. The Royal Society originated in this college, and its meetings were held in a room over the gateway from 1652 to 1659, when Dr. Wilkins was warden of the college.

19. Worcester College, originally Gloucester Hall, was founded as a college in 1714, by Sir Thomas Cookes: it is situated on the banks of the Isis, in the west part of the city. It consists of a range of buildings, having the library, hall, and chapel, in the centre, an elegant line of new buildings on the north, and the old buildings on the south side.

20. Trinity College was founded and endowed by Sir Thomas Pope in 1554, who purchased the tenements and extensive buildings of Durham College, originally founded by Richard de Noton, prior of Durham, in 1289. This college formerly consisted principally of a low quadrangle, with hall, library, and chapel. In 1664, extensive additions were made, and soon after a new court of three sides was built, under the superintendence of Sir Christopher Wren.

The Halls of the University were originally the private property of some of the inhabitants of the town, who let them for the use of the students before the foundation of the colleges; after the endowment of colleges, the halls gradually fell into disuse. Five, however, still remain; the students who belong to them wear the same dress and have the same University privileges as the rest of the students. The only difference between the colleges and halls is, that the halls have no fellowships or scholarships, and not being incorporated, whatever estates or other property they possess, is held in trust by the university. The halls have nothing in their architecture worthy of remark. St. Mary's Hall took its name so early as 1239, and Magdalen Hall in 1487. New Inn Hall is situated on the west side of the North Bailey, in the place called "The Seven Deadly Sins." St. Alban's took its name in 1230; St. Edmund's Hall in 1269: this hall derived its name from St. Edmund, who was Archbishop of Canterbury in the reign of Henry III.

The Schools in which the professors formerly delivered their lectures, and the examinations for degrees take place, form a quadrangle, the principal front of which is 175 feet in length; they consist of a number of apartments, most of which have now been transferred to the Bodleian Library: a few are retained for the examinations. The Divinity School, the only one used for lectures, is a splendid specimen of the Gothic of the reign of Henry VI. The few professors, who under the present system can obtain classes, lecture in the Clarendon building. The gateway, which is opposite to Magdalen Hall, is in a lofty tower, which exhibits in its five stories successively,

what are called, the five orders of architecture. These schools were built in the fifteenth century. The University library was founded by Humphrey Duke of Gloucester, but greatly increased, and almost created by Sir Thomas Bodley, in the latter part of the sixteenth century: and hence it is known as the Bodleian Library. The erection of the present building was begun in 1610. The principal room is in the form of the letter H; but the library extends in a number of smaller rooms entirely round the quadrangle, besides occupying other apartments. The upper story also belongs to it, and contains some books, though it is partly occupied as a picture gallery, which contains a series of portraits of distinguished persons connected with the University. The Bodleian is one of the eleven libraries which, according to Act of Parliament, receive a copy of every newly published book. These continual accessions, added to Sir T. Bodley's munificent donation, have made it one of the best libraries in Europe. At the same time, owing to the regulations of the University, it is of very little use even to the resident members of Oxford. This library is open between Lady Day and Michaelmas, from nine in the morning till four in the afternoon; and between Michaelmas and Lady Day, from ten in the morning till three in the afternoon. No book can be taken out. The marbles collected in Greece and Asia, at the expense of the Earl of Arundel, and presented to the University by his grandson, the Duke of Norfolk, are placed in an apartment on the north side of the schools. The library, founded by Dr. Radcliffe, which bears his name, was built by Gibbs, and completed in 1749.

The Clarendon Printing-house was built in 1711, by Vanbrugh, with the profits arising from the sale of Clarendon's History of the Rebellion. The business of the press was carried on in this building until 1830, when it was removed to a newly-erected printing-house. At present the basement story contains the police room, and other apartments connected with that establishment. The remainder of the building is appropriated to the public purposes of the University. The present printing-house, which is a large building, was commenced in 1826, and was ready for use in the following year.

The Theatre was built by Gilbert Sheldon, Archbishop of Canterbury, and Chancellor of the University, in 1669. The building is said to be on the plan of the theatre of Marcellus at Rome, and is capable of containing nearly 4000 persons. Sir Christopher Wren was the architect. Public meetings are held in it for the annual commemoration of benefactors, the recital of prize compositions, and occasionally for conferring degrees on distinguished persons: sometimes public concerts are performed in it. A Museum was founded in 1682, by Elias Ashmole, for the reception of rare productions, both natural and artificial. The building consists of two large rooms, in which the principal objects are arranged; and three studies, containing MSS. of Dugdale, Wood, Ashmole, and Aubrey with other rare books. At the extremity of the northern suburb stands the Observatory. On the south opposite to Magdalen College, at the entrance of the city by the London Road, are the Physic Gardens, which were first formed in 1622 by the Earl of Derby.

The statutes under which the University acts as a corporate body were revised and enlarged, and received the royal sanction in the reign of Charles I. This corporate body is known by the style of the "Chancellor, Masters, and Scholars of the University of Oxford." The whole business of the University in its corporate capacity is transacted in two distinct assemblies, termed "Houses:" the House of Congregation, and the House of Convocation. Besides these, there are weekly meetings of the vice-chancellor, heads of houses, and proctors; at which meetings all new orders and regulations, relating to the University, must now originate. When thus approved, they are finally laid before the Convocation to be rejected or confirmed. The Convocation consists of the vice-chancellor, proctors, and all doctors and masters who have taken out their regency. The powers of this assembly extend to all subjects connected with the University. The House of Congregation is composed of the vice-chancellor, or, in his absence, one of his four deputies, the proctors or their deputies, the *necessary* regents (doctors in divinity, civil law, and medicine, or masters of arts for the first year following the act after they were admitted to their degrees), and the regents *ad placitum* (which term comprehends all resident doctors, all public professors and lec-

turers, all heads of colleges and halls, and in their absence their deputies, the masters of the schools, the public examiners, and deans and censors of colleges, &c.). The business of Congregation is principally confined to the passing of graces and dispensations, and to the granting of degrees. The officers by which the university is immediately governed are the chancellor, high-steward, vice-chancellor, and two proctors. The chancellor is elected by the members of Convocation, and is usually chosen from among the nobility; his office is for life, and also that of the high-steward, who is nominated by the chancellor. The vice-chancellor is recommended by the heads of houses, but is appointed by the chancellor. He is always the head of some college, and is annually nominated, though it is now usual for the same person to hold the office for four successive years. The two proctors are masters of arts, of at least four years' standing. They are chosen in turn from the several colleges, and are elected by the common suffrage of all doctors and masters of arts in their respective colleges. The vice-chancellor and proctors have the privilege of appointing deputies to assist them in their duties. Besides these officers, there are, a public orator, librarians, a keeper of the archives, &c., and twenty-nine professors and lecturers. In 1834 the members on the books of the university were 5290, of whom 2510 were members of Convocation.

There are fourteen parish churches in Oxford, besides places of public worship for dissenters. St. Mary's Church, situated on the north of the High Street, is a fine Gothic building, erected in 1498. The interior was much altered and improved in 1828, and is used for the university sermons. St. Peter's in the East is supposed to have been originally built by St. Grimbald, under the patronage of Alfred. The other principal public buildings in this city are—1st. The Town and County Hall, a spacious stone building, erected in 1752; 2nd. The County Gaol, which occupies the site of an ancient castle built in the reign of William I.; 3rd. The Bridewell; 4th. The Radcliffe Infirmary; 5th. The Music Room; 6th. The General Market. There are several charity schools, in which 300 children are clothed and taught. A handsome stone bridge, 526 feet long, called Magdalen Bridge, crosses the Cherwell on the east, and leads to the High Street. Magdalen Bridge was erected in 1779. Another bridge, with three substantial arches, crosses the Isis on the west: and on the same river to the south is another bridge, on which till 1778 there stood a tower, termed Friar Bacon's Study. Oxford has no particular trade or manufacture, but mainly depends on the University. The Oxford canal is of great advantage to the town in affording facilities for obtaining supplies at a cheap rate. In the article of coals alone there has been a great saving effected: they are now brought direct from Staffordshire, instead of coming from the north through the port of London.

Banbury is a well-built flourishing borough on the Cherwell, twenty-two miles north of Oxford. It sends one member to parliament: the franchise has recently been extended to the whole parish. Banbury had once a free grammar-school, but only the building now remains. There is a charity school, and large national schools for both sexes. The church is a spacious modern building, besides which there are five meeting-houses for dissenters. The town-hall is a mean brick building; the gaol is an old and rather handsome structure. There was a considerable manufacture of plush or worsted shag, and horse girths, which has somewhat declined; but the prosperity of the place has been much increased by the opening of the Oxford canal, which passes to the east between the town and the river. The fairs and weekly markets also bring a considerable trade. A gas light and coke company has recently been established. Banbury is a very ancient town; the Saxon name was Banesbyrig, and it has been supposed by some antiquarians (apparently without sufficient reason) to have been the Roman station Brinavæ. A castle erected here by Alexander Bishop of Lincoln, in 1125, was a very extensive building, but it was entirely destroyed in the civil wars by order of parliament, and nothing remains but a fragment of one of the walls.

The borough of Woodstock, eight miles N.N.W. of Oxford, is pleasantly situated on an eminence: the streets are well paved, and the houses are pretty well built; but it is by no means a flourishing place. Woodstock, till the passing of the Reform Act, sent two

members to parliament; it now sends only one, and the franchise has been extended much beyond the limits of the former borough, including an area, the boundary of which runs from two to four miles on every side of the town. The chapel* is a handsome building. The town hall is a good edifice with stone piazzas under it, which are used as a market. A grammar-school was founded here in 1585, and alms-houses in 1793. On the south-west of the town is Blenheim Park, the magnificent seat of the Duke of Marlborough. The only manufacture of this place is that of gloves, which furnishes employment to about 1200 persons in the town and the surrounding villages. Between three and four miles south of the town on the river Evenlode is a paper-mill, and three miles to the north-east there is a stone quarry. A few miles to the west of the town at Stonesfield are the remains of a Roman villa.

Witney, a market-town, situated on the Windrush, ten miles W.N.W. of Oxford, consists chiefly of two streets, and contains one parish church, and several meeting-houses. On the east side of the High Street stands the Blanket Weavers' Hall, which is a handsome building. In the same street is the town-hall, built of stone, with a piazza beneath. A free-school was founded here in 1660, and a charity-school in 1732. This place has long been celebrated for its manufacture of blankets. Witney is one of the polling-places for the county.

Thame, a market-town on the river of the same name, is twelve miles east of Oxford. The town stands on a gentle acclivity, and consists principally of one long street. It is a place of great antiquity, and is considered by some writers to have been the site of a Roman city called Tamesis: it was certainly of some consequence in the time of the Saxons, and suffered severely from the Danes. The church is a large handsome edifice, in the form of a cross; at the intersection of the nave and transepts rises a fine embattled tower. There are several charitable institutions. The grammar-school was, during the whole of the seventeenth century, in great repute as a place of education, but its prosperity has now declined. There are no manufactures of any consequence: the bulk of the labouring class is engaged in husbandry. During the late war this town was a depôt for prisoners of war.

Henley, on the river Thames, twenty-two miles and a half south-east of Oxford, has been much improved during the present century: the streets have been widened, paved, and lighted, and the houses in general modernized. The wooden bridge, which formerly crossed the Thames here, is now replaced by a handsome one of stone. The church is an old building of considerable size: the lofty tower was built by Cardinal Wolsey. There are several schools and almshouses; and the charities altogether are considerable for the size of the place. The town has some trade with London in malt, flour, corn, and wood, but no manufactures. Five miles north-west of Henley is the small town of Nettlebed, one of the polling-places for the county.

Deddington, near the Oxford canal, sixteen miles north of Oxford, is now a place of little importance, but formerly it was a corporate borough, and sent two members to parliament. It was, however, released from this duty by petition. Deddington is one of the polling-places for the county.

Chipping Norton, eighteen miles north-west of Oxford, was once a place of some commercial importance. The town is on the side of a considerable eminence: the houses are mostly of stone, and many of them are good, but not regularly built. It contains a fine Gothic church, a charity-school, and an almshouse. To the north of the church are the small remains of a castle, supposed to have been built in the reign of Stephen.

Dorchester, nine miles S.S.E. of Oxford, was once a Roman station (Durocina), probably of some importance. In the seventh century it became the seat of a bishopric, which comprised the two large kingdoms of the West Saxons and Mercians. It continued to be the largest see in England, until about 1086, when it was removed to Lincoln. The church is a handsome old building, erected in the reign of Henry III.; the interior is 231 feet from east to west, and 210 from south to north, including the aisles; the height is about 55 feet. It has a square and massive tower, with turrets at three of the angles, and an embattled parapet at the top. This town is now of no importance, depend-

* Woodstock is a township of the parish of Bladon, and therefore has no parish church.

ing chiefly on the traffic derived from its situation on the road to Oxford. The Thame flows through the town, and at a short distance on the south is the confluence of that river with the Isis. A new stone bridge was constructed over the Thame at Dorchester in 1815, which is nearly a quarter of a mile long, and thirty feet broad. On the south side of the town is an ancient embankment, about three-quarters of a mile long, termed Dyke Hills: and on the summit of an eminence is a Roman camp well preserved. Many imperial Roman coins and various other interesting antiquities have been dug up in this town and its neighbourhood.

Watlington, fourteen miles south-east by east of Oxford, situated among the Chiltern Hills, is a small town with narrow streets and ill-built houses. The church, which is an old building, stands at some little distance on the north west of the town. Here is a small free-school. In the centre of the town is the market-place, a substantial brick building, erected in 1664. The Roman Icknield Street passed about half a mile south by east of this town.

Burford, on the Windrush, seventeen miles west by north of Oxford, is an old and irregularly-built town. The church is a fine old edifice. Burford contains a free-school, founded in 1571, and three slenderly endowed almshouses, This town has manufactures of saddles, rugs, and duffles.

Population of market-towns in Oxfordshire:—

Oxford	20,434
Banbury	5906
Woodstock	1380
Witney	5336
Thame	2885
Henley	3618
Deddington	2078
Dorchester	866
Chipping Norton	2637
Burford	1866
Watlington	1833
Bicester	2866
Bampton	2514

Authorities.

Davis's Agriculture of the County of Oxfordshire.

Young's Agricultural Survey.

Wood's History of the Colleges and Halls of Oxford.

Chalmers's History of the University of Oxford.

The Oxford University Calendar.

Ingram's Memorials of Oxford.

GLOUCESTERSHIRE

Is bounded on the east by Oxfordshire, on the north by Warwickshire and Worcestershire, on the west by Herefordshire and Monmouthshire, and on the south by Somersetshire and Wiltshire. It is of a very irregular figure, projecting into the neighbouring counties on the north-east and on the south-west. Its greatest length, which is from north-east to south-west, is fifty-two miles, and from east to west forty-three miles; the area is about 1256 square miles. On the south-west this county surrounds a small isolated piece of Wiltshire, and on the north-east several detached parts of Worcestershire. Several parts of Gloucestershire are also entirely contained within the neighbouring counties of Warwick and Oxford.

This county formed part of the Mercian kingdom of the Saxons, during which period Winchcombe and King Stanley are mentioned as royal residences. The Romans intersected it by several roads, the principal of which were the Icknield Street, the Ermine Street, the Fosseway, and the Via Julia. The first enters from Oxfordshire at East Leach, meets the Fosseway and Ermine Street at Cirencester, and proceeds to Aust. The second enters the county from Wiltshire at Cricklade, passes through Cirencester to Gloucester, whence it is supposed to have been continued to Caerleon in Monmouthshire. The Fosseway runs in a north-east direction from Bath through the county past Cirencester to Limington, where it enters Warwickshire. The Via Julia led from Bath across the Severn into Monmouthshire. There are numerous remains of Roman encampments in this county. About a quarter of a mile of the Fosseway, near Bourton-on-the-Water, is a quadrangular Roman camp, inclosing nearly sixty acres; numerous coins and other antiquities have been discovered here. Near Oldbury-on-the-Hill there are also vestiges of two camps; many other traces of Roman occupation have likewise been discovered throughout the county.

The general aspect of the county varies extremely. It may be distinguished into three separate districts, the boundaries of which are easily de-

fined, as their respective characteristics are the hill, the vale, and the forest. To the east of the Severn, and nearly parallel to it at the distance of from six to ten miles, runs a range (called, in parts of its course, the Cotswold* Hills) through the whole of the county in a north and north-east direction, from Bath on the Lower Avon to Chipping Campden, and nearly to the Upper Avon. Near Wotton under Edge, the hills rise to the height of 800 feet, and after sinking to 250 feet, again rise near Cheltenham to 1134 feet; they divide the basin of the Lower Severn from the waters which flow into the upper course of the Avon and into the Thames†. On the east side of the Severn, between the river and the hills, is an extensive vale of the richest soil, with a good climate. This district is divided into upper and lower, or the vales of Gloucester and Berkeley. The former extends from Gloucester northwards, and is bounded by the Severn on the west side, and by the hills on the east, which inclose in nearly a semicircular arch, the towns of Gloucester, Tewkesbury, and Cheltenham. The vale of Gloucester extends from north to south about fifteen miles, and from east to west between seven and eight. The vale of Berkeley in its outline describes nearly a segment of a circle; the Severn forming an irregular chord, and the hills to the south and east a curve, terminated on the north by the Painswick and Matson Hills. Its extent from Aust Cliff on the south to the fort of Matson Hill is twenty-five miles; its average width is rather less than four. On the west of the Severn, and entirely divided by it from the rest of the county, is the forest district diversified by hill and dale, and chiefly occupied by the Forest of Dean‡, noted for its oak and beech trees, which formerly furnished the greater part of the supply of timber for the British navy. The hill-district contains about 200,000 acres, and consists of a long tract of undulating high ground, in some parts bleak and bare, but in others yielding a short fine grass well adapted for sheep-pasture, to which purpose it is chiefly appropriated. Though the general elevation is considerable, the climate is by no means severe. The sides of the hills abound with springs, and almost every valley has its little stream.

The principal rivers are the Severn, the Wye, the Lower and the Upper Avons, the Frome, the Stroud, the Isis or Thames, the Calne, the Windrush, and the Ledden. The Severn enters the county from Worcestershire on the north near Tewkesbury, where, uniting its waters with the Upper Avon, it takes a S.S.W. course to Gloucester. At Gloucester it divides into two branches, which, re-uniting a little below the city, inclose a small tract of land called Alney Island. From Gloucester it flows in a very winding course, but still in the same general direction to Newnham, where it widens into a broad æstuary, into which the Wye and the Lower Avon fall. In the æstuary of this river opposite the mouth of the Avon, the tide rises forty-two feet. Abundance of salmon used formerly to be caught in the Severn, but it has now become scarce. The Lower Wye forms the boundary between Monmouthshire and this county; and the Lower Avon partly between this county and Somersetshire. At Chepstow, near the mouth of the Wye, the tide sometimes rises 60 and 70 feet. The North Frome is a small stream, which rising near Wickwar, passes Iron Acton, and in its course supplies a number of mills and manufactories. It enters Bristol on the north side of the city, and passing through the centre of it falls into the floating-dock of the Avon. The last half mile of its course is used as a dock and harbour. The Ledden takes its rise in Herefordshire to the north of Ledbury, and, after a south-east course

* Cotswold takes its name from sheep-cotes and wolds—hills, the Englishmen in old times termed wolds.—Camden's *Britannia*.

† See pp. 47, 56, &c.

‡ The Forest of Dean is supposed to have derived its name from the British *Dary's Coed*, or the wood of fallow deer, with which it abounded for many centuries. Nearly the whole is the property of the Crown; and the area is above 20,000 acres. The forest is divided into six walks, and its government is vested in a lord-warden, six deputy wardens, four verderers, a conservator, and several other subordinate officers. These officers are empowered to hold a Court of Attachment every forty days; a Court of Swanimote three times every year; and another Court, called the Justice Seat, once in three years. These courts are held at the King's Lodge or Speech House, situated nearly in the centre of the forest. The whole forest is extra-parochial, and its inhabitants, besides being exempted from rates and taxes, have free liberty of pasturage, and the privilege of sinking mines, with the right of taking wood and timber for their works. One-sixth of the produce of the mines is due to the King. The extra-parochial inhabitants in this forest in 1831 were 7014; of these more than 800 males, twenty years and upwards, were employed in mines, quarries, and coal pits.

falls into the Severn at Gloucester. The Upper Avon only divides a small portion of this county from Warwickshire, and another small part from Worcestershire. The Stroud rises near Brimpfield, passes on to Stroud, and joins the Severn seven miles south-west of Gloucester. The Calne or Coln, one of the principal rivers, rises a little to the north of Cheltenham, and taking a winding course to the south-east, passes by Fairford, and joins the other streams which unite with the Thames* at Lechlade. The Windrush has its source near Winchcombe, and takes a south-east and then an east course through the county into Oxfordshire.

The canals of this county give it a communication with other parts of the kingdom. The Thames and Severn canal connects the navigation of the Severn with the Thames: it begins at Lechlade on the confines of the county where the navigation of the Thames ceases. This canal is 42 feet wide at the surface of the water, 28 at the bottom, and 5 deep. At the highest part, seven miles and a half from Stroud, it is carried through Sapperton Tunnel, which is 4300 yards in length, and 15 feet in breadth†: it then goes on to Stroud, where its continuation is called the Stroud Water Canal, which runs nearly parallel to the Stroud river till it meets the Severn, about seven miles below Gloucester in a straight line. The Hereford canal, which is intended to connect the towns of Gloucester and Hereford, is not yet completed, and at present reaches only from Gloucester to Ledbury. The Berkeley and Gloucester canal is sufficiently capacious to allow West Indiamen and other large vessels to come up to Gloucester, being 18 feet deep, and 70 feet in width at the surface: it begins in the æstuary of the Severn, at Sharpness Point, about three miles from the town of Berkeley, and terminates in a spacious basin at Gloucester. In its course it crosses, by an aqueduct, the Stroud Water canal, near the Severn. The whole length of this canal is sixteen miles and a half; while the sinuosities of the river in this part make the course of the Severn from point to point of the canal twenty-eight miles. This canal was projected in 1793; but it was not completed until 1826. There are medicinal springs of great efficacy in this county: those of Clifton and Cheltenham have been long celebrated, and one has recently been discovered near Gloucester, which it is said surpasses those of Cheltenham in its strength and effects.

The soil of the hills is generally a calcareous loam, changing in the little valleys into a stiff clay; the upper soil is everywhere of little depth, averaging not more than five inches: the subsoil is a calcareous rubble, and stones of different kinds are found near the surface. The land under cultivation is inclosed by stone walls; corn, turnips, and the artificial grasses are the principal crops. The vale-district contains about 100,000 acres. The soil is mostly a deep, rich loam, of uncommon fertility, partly under the plough, and partly in pasture: the land is intersected with elm and willow and thorn hedges. A considerable quantity of corn is raised in the vale of Gloucester. Excellent butter is also made here, and the cheese known as single Gloucester. The vale of Berkeley is chiefly devoted to dairy farms, and to the rearing of cattle; there is some arable land towards the upper angle, but, with this exception, nearly the whole is laid out in grass. The cheese known as double Gloucester, and whey-butter, are made in this vale in very large quantities. The produce of the orchard is likewise an object of attention to the vale farmer. Considerable quantities of cider and perry are made annually. The forest-district, which contains about 40,000 acres, is likewise well stocked with orchards that produce excellent cider. A great bed of coal and iron-stone extends all through it, and between one and two hundred pits have been opened for the coal in different parts. The iron ore is not very rich in metal, and therefore comparatively little worked. To the north of Bristol is another bed of the same kind, which likewise contains veins of lead; the iron and lead are not worked, but the coal supplies the immense consumption of the manufactories of Bristol*. A good compact limestone is found in the Forest, and a very superior kind is obtained in great abundance a few miles to the north of Bristol. Freestone of excellent quality, more particularly at Painswick, is found on the hills; blue claystone for build-

* For the source of the Thames, see p. 48.
† Note, p. 49.

* See p. 57.

ing in the vale; and paving stones and grits in the Forest.

Gloucestershire is divided into twenty-eight hundreds, containing 851 parishes, one city, and part of another, and twenty-eight market-towns. This county is likewise politically divided into two parts, each of which sends two members to parliament. The eastern division comprises the hundreds of—Crowthorne and Minety, Brightwells-Barrow, Bradley, Rapsgate, Bisley, Longtree, Whitstone, Kiftsgate, Westminster, Deerhurst, Slaughter, Cheltenham, Cleave, Tibaldstone, Tewkesbury, Dudstone and King's Barton, and Gloucester city and county. The western division comprises the hundreds of—Berkeley, Thornbury, Langley and Swineshead, Henbury, Grumbald's Ash, Puckle Church, Barton Regis, Lancaster Duchy, Botloe, Saint Briavel's, Westbury, and Bledsloe; except so much of Henbury and Barton Regis as are included in Bristol.

Gloucester, which is a city and county of itself, and also the capital of Gloucestershire, distant from London 106 miles west by south, is situated on the east bank of the Severn, about thirty-three miles above the entrance of the Bristol Avon into the Bristol Channel. Gloucester is the Glevum of the Antonine Itinerary, and the Caer Gloui of the Britons; Glevum was a Roman Colonia. The city consists principally of four wide streets, meeting each other at right angles: they are named respectively from the old gates of the city at which they terminate—East, North, West, and South-gate streets.

The cathedral, which was originally an abbey-church, was converted into a cathedral at the Reformation. Henry VIII. made Gloucester a bishop's see; but Camden gives reasons for supposing that it was a bishopric at a very early time. This noble edifice is of very ancient date, and combines in a remarkable degree the architecture of successive ages: the Norman, Saxon, and early English styles are all distinctly traced, and each are fine examples of their kind*. The extreme exterior length and breadth of the cathedral are respectively 427 and 154 feet; the central tower is 223 feet high. There were eleven parochial churches in this city before its siege by Charles I. in 1643, but five of them were then demolished. There are several meeting-houses, and a synagogue. Among the public institutions are two grammar-schools, a charity-school, a lunatic asylum, a house of industry, a county infirmary, several hospitals, and a great number of other charities; two commodious market-houses, a custom-house, and a modern theatre. The shire-hall is a handsome building, well adapted for the business of the county. The county gaol, a little to the west of the town, is on the site of the ancient castle built in the time of William I., the remains of which were destroyed some years back to make room for the gaol. This prison is worthy of notice as being the first in England where attempts were made to introduce a more enlightened and humane system of prison discipline. It is described at present as inadequate to its purposes, especially the classification of prisoners. A house of correction is attached to it*. The Spa is to the south of the town, where there is a handsome pump-room, with hot, cold, and vapour-baths, which was first opened in 1815: since that time houses for the accommodation of visitors have been erected. Gloucester is abundantly supplied with water from springs in the vicinity: coal is brought down the Severn from Staffordshire, and is preferred to that of the adjacent collieries for its superior quality. Coal is brought also from the Forest of Dean to the city. The principal manufacture of Gloucester is that of pins, which has however declined in consequence of the competition of Birmingham and other places: there is also a large bell foundry established here about A.D. 1500. The chief cause of the prosperity of the city is its trade, which at present is much on the increase. This may be attributed, in a great measure, to the improvement in the inland navigation effected by the Gloucester and Berkeley canal, which has very much increased the commercial importance of Gloucester. The custom-house receipts, which were 2836*l.* in 1827, were, in 1831, above 10,000*l.*, and are probably still increasing. Gloucester has also communication, both east and west, by means of canals; and a rail-road, nine miles long, has been made between this city and Cheltenham, by which provisions, &c. are sent to the latter place

* For a particular description of this cathedral, see Britton's History and Account of Gloucester Cathedral, Lysons's Gloucestershire Antiquities, &c.

* Reports on Municipal Corporations.

with great facility. The county of the city of Gloucester sends two members to parliament. The limits within which the elective franchise is exercised have recently been somewhat enlarged on the south and east, and now include the new buildings at the Spa. Under the recent Act for the regulation of Municipal Corporations, Gloucester is divided into three wards, and has six aldermen and eighteen councillors. A triennial musical festival is held in the cathedral of this city. The Westgate bridge over the Severn was taken down and rebuilt under an act of 46 Geo. III. The city is lighted with gas.

Tewkesbury is a very ancient borough, delightfully situated on the east bank of the Upper Avon, near its confluence with the Severn, and ten miles N.N.E. of Gloucester. Tewkesbury sends two members to parliament: the elective franchise has recently been extended from the town to the whole parish, which stretches from north to south about four miles; its width from east to west varies from 200 yards at the north to two miles at the south. It is likewise a polling-place for the county. A little to the north of the town, the Avon has been diverted from its natural channel by a cut called New Avon, or Mill Avon, which meets the Severn lower down. Two other streams, called the Carron and the Swilgate, here flow into the Avon, the one just above the town, and the other a short distance below it. The tide ascends the Severn as far as Tewkesbury. Tewkesbury consists mostly of three principal streets, with several lanes and alleys. The principal street, running from the south in a north-east direction, is of considerable length, and wide and handsome; all the streets are paved and lighted. Most of the old buildings have been replaced by houses of more modern form; but there are still a few specimens left of the ancient style of building. The church, a magnificent structure, was originally an abbey, founded, it is said, about A.D. 715*; it contains most interesting specimens of several styles, and many sepulchral monuments of warlike personages. Besides the church, Tewkesbury contains meeting-houses for Independents, Quakers, Baptists, and Methodists. Among the public buildings and institutions are—the town-hall, a handsome building; the new gaol, situated at the top of High Street, which is neat and commodious; and the house of industry near the entrance of the town, which is well adapted for its purpose. There are a free grammar-school*, an endowed charity-school, and national and Lancasterian schools; also several almshouses and charities; a dispensary, and numerous other benevolent associations. Tewkesbury had once a considerable share in the clothing business, but it has entirely ceased. The working classes are now mostly employed in stocking frame-work knitting, particularly cotton; in the manufacture of nails, and in the business of matting. About 600 stocking-frames are at present employed, and about 150 persons in the manufacture of lace by machinery. The corn-market of Tewkesbury is said to be somewhat less frequented, owing apparently to improved communication between other towns in the neighbourhood. In a field about half a mile south of the town was fought the decisive battle between the houses of York and Lancaster, A.D. 1471, and the scene of that sanguinary engagement is still known under the name of the bloody meadow. A bridge has recently been built over the Severn, opening a direct communication between Tewkesbury, and Hereford, and Wales.

Cheltenham is beautifully situated in a fine fertile vale, open on the south and west, and sheltered on the north-east by an immense amphitheatre formed by the Cotswold Hills; it is nine miles E.N.E. of Gloucester. This town is chiefly celebrated for the medicinal properties of its saline springs, the sanative quality of which was discovered in the beginning of the last century, when a room was fitted up for the reception of company. Since that time Cheltenham has gradually risen in repute, and has been made particularly attractive to visitors as well as invalids. The town, which extends about a mile in length, consists of one wide street, and others branching from it at right angles. The Well Walk is an elegant gravelled promenade, about 600 feet in length, and 20 feet in breadth. The church is a venerable old building; the theatre is of course modern. There are two charity-schools and an hospital. The amusements of this town are those usual in most other places of public resort,

* Camden, Gloucestershire.

* The master of this school at the time of the Corporation Inquiry (1833) was a clergyman, and also a justice of the borough, in which latter capacity he was one of the governors of the school.

and perhaps of a superior order. Besides the excellent accommodations in the town, there are detached villas in the vicinity, which are not only eligible residences, but add considerably to the picturesque beauty of the scenery. By the Reform Act, Cheltenham sends one member to parliament, and it is likewise a polling-place for the eastern division of the county.

North-Leach, eighteen miles east by south of Gloucester, lies in a bottom in the Cotswold Hills, near the source of the Leche, a small river whence it derives its name. It was formerly an important clothing town, but there not being sufficient water for the number of mills required, the manufacture has gradually declined. The church is a handsome old building. There is a free grammar-school, founded in 1558, which has an exhibition to Pembroke College, Oxford, of the annual value of 50*l*. North-Leach is a polling-place for the eastern division of the county.

Cirencester, a borough seventeen miles south-east of Gloucester, is situated on the small river Churn, which falls into the Thames near Cricklade. It sends two members to parliament. Cirencester is the site of the Roman station of Corinium, or Cornovium. Three Roman roads, the Fosse-way, Ermin Street, and the Iekneld-way, meet at this place. A variety of antiquities have been found here, and in the neighbourhood; which, together with the circuit of the walls, indicate that the ancient town must have occupied a much greater area than the present. Camden speaks of the 'ruinated walls' as existing in his time; and they were still visible in 1718 (Atkyns' Gloucestershire). The town, as it now stands, contains four principal streets, and several smaller ones. There were once three churches, but only one remains, which is a noble edifice, and a magnificent specimen of the architecture of the fifteenth century. There are likewise places of worship for Dissenters. Cirencester has a grammar and other charity schools, three hospitals, and several charitable institutions, the whole income of which is considerable*. The manufactures of Cirencester are not very important. There are two or three manufactories of currier's knives, for which this town has long been in very high repute. An extensive clothing manufactory is carried on in the parish; a small carpet manufactory is likewise established. A branch of the Thames and Severn Canal is brought close to the town.

Stroud, a borough and market-town, situated on a declivity on the west side of the Cotswold Hills, and on the little river Stroud, is nine miles south of Gloucester. The town itself consists of only a few narrow streets. There are one church and various chapels, a free-school and several charity-schools. Stroud is the centre of an extensive clothing district, which stretches in a direct line about nine miles from east to west, and nearly the same distance from north to south, and contains upwards of ninety mills. The peculiar features of this district are the situation of the mills on streams in deep ravines; the scattered and irregular manner in which the houses are built on the hill-sides; and the contrast between the high land, in many cases either covered with wood or quite bare, and with few houses, and the valleys which are studded with houses and thickly peopled. The Stroud, which is a very clear stream, is said to have peculiar properties in the dyeing of scarlet and other grain colours. The Thames and Severn canal, from this point usually called the Stroudwater canal, accompanies the course of the river to the Severn; the facility of communication which this canal affords has been extremely advantageous to the clothing trade of Stroud and its vicinity. This important manufacturing district was till lately unrepresented in parliament; it now sends two members.

Cirencester and Stroud are polling places for the eastern division of the county.

At Minchin Hampton, in the Stroud district, about four miles south-east of the town of Stroud, the cloth manufacture is carried on to a considerable extent along the banks of the numerous brooks in its vicinity. The place is irregularly built on the west escarpment of the Cotswolds; the church is a very old structure. There is a free-school pretty well endowed, and two other charity-schools. On the west of the town there is a large tract of common land, containing about 1000 acres, which in the reign of Henry VIII. was given for the use of the poor resident inhabitants of the parish by Dame Alice Hampton. It is the site of a singular encampment,

* Digest of Charity Commissioners' Report.

beginning at Littleworth, and extending nearly three miles to Woeful Dane Bottom.

Painswick, another market-town in the same district, about three miles north of Stroud, is small and irregularly built. It has a church of considerable antiquity.

Bisley is a small market-town in the same district, about three miles east of Stroud. The cloth manufacture is extensively carried on in this parish. There is an old church with numerous monuments.

Dursley, fourteen miles S.S.W. of Gloucester, consists of two irregular streets intersecting each other. This town has a large church and a neat market-house; there are six clothing mills in its vicinity. At Dursley there is a stratum of tophus or puff-stone, so soft as to be worked with facility, but on exposure to the air it becomes uncommonly hard and durable. The walls of Berkeley Castle were built of this stone, which though upwards of 700 years old are in good repair.

Wotton-under-Edge, another clothing town, eighteen miles south by west of Gloucester, stands at the bottom of a ridge of wooded hills, whence it derives its name. Wotton is an old town, is well built, and has a handsome church, a well-endowed free-school, three hospitals, with other charities; and thirteen clothing mills. The trade of the town is at present in a flourishing state. The Berkeley Avon, a small river which falls into the Severn near Berkeley, runs by this town.

Kingswood, five miles south by west of Dursley, is situated in the small piece of Wiltshire which is in this county. There are seven clothing mills in this parish, one of which is among the most extensive in the country. At Kingswood are the remains of an abbey of Cistercian monks, founded in 1139 by William de Berkeley. The two last towns are polling places for the western division of the county.

Tetbury, a market-town sixteen miles S.S.E. of Gloucester, is situated on a rising ground near the source of the Lower Avon, and consists principally of four streets meeting at the centre of the town: the houses are mostly well-built of stone. There is a handsome church, a free-school, an alms-house, and various charities. It has two market-houses, in which yarn, cheese, and butter are the principal articles for sale. A manufactory for cloth is carried on here. To the north of the town there is a petrifying spring.

Wickwar, twenty miles S.S.W. of Gloucester, is an ancient town situated on two small streams, over one of which there is a handsome stone bridge. The church is a large edifice with a lofty tower. Wickwar has a good free-school. This town takes its name from Wick, a turn in a stream; and War, from the manor having belonged to the family De la Warre.

Chipping Sodbury, twenty-four miles S.S.W. of Gloucester, was formerly one of the greatest markets for cheese in the kingdom. It has a spacious church with a lofty tower, and a free grammar-school. In the vicinity, at Little Sodbury, on the brow of a hill, there is an ancient camp of a rectangular form, 320 yards long, and 200 broad.

Clifton, a village one mile west of Bristol, is situated on a steep ascent, and on one side nearly perpendicular, which rises from the river Avon; and is celebrated for the picturesque beauty of its scenery, the salubrity of its air, and the virtues of its hot springs. For more than a century these springs have been considered useful in cases of debility and consumption. Numerous visitors, as well as invalids, who resort here during the season, find every arrangement that is conducive to their accommodation and amusement. On the summit of the hill are the remains of a Roman fortification, immediately opposite to two others on the Somersetshire side of the Avon.

Thornbury, a borough and market-town about two miles from the Severn, and twenty-three miles S.S.W. of Gloucester, principally consists of three streets, disposed in the form of the letter Y. The buildings are generally old: the church is large and handsome. There are two free-schools, and several charities. At the end of the town are the remains of the unfinished castle of Thornbury, which was begun by the Duke of Buckingham, but his magnificent designs were stopped when he fell a sacrifice to the resentment of Wolsey, and was beheaded in 1522. Sodbury and Thornbury are polling places for the western division.

Berkeley, a borough and market-town on the Berkeley Avon, a small tributary of the Severn, is fifteen miles south-west of Gloucester. It carries on some trade in timber, coals from the forest of

Dean, malt, and cheese; has a free-school, and several charities. The church is a large and handsome building. Berkeley Castle, the scene of many historical events, and of the barbarous murder of Edward II., is situated on an eminence near the south-east side of the town. The castle, which was probably erected in or about the reign of Henry I., is a very fine specimen of castellated building, and is in complete repair. It still belongs to, and is the residence of some of the Berkeley family.

St. Briavel's, now a small village, nineteen miles south-west of Gloucester, is situated in the Forest of Dean. It was once a borough and market-town, and its burgesses had an exemption from all toll throughout the realm. Their privileges are now obsolete; but the parochial inhabitants have still a right of common in a wood called Hudnells, which includes a tract of land on the banks of the Wye, about six miles long and one broad; they are also allowed to cut wood, but not timber through other parts of the forest. A castle, which was erected here in the reign of Henry I., is surrounded by a moat. The north-west front is nearly all that remains entire. One of the towers is used as a prison for the hundred. In the centre is a low building, which serves as an ante-chamber to the room in which the officers of the hundred hold their court. The Constable of St. Briavel's Castle is appointed by the Crown, and is also the Lord Warden of the Forest.

Newent, a market-town eight miles north-west of Gloucester, was formerly of more consequence than at present. It is situated in the forest of Dean, on a branch of the Ledden, which is made navigable for boats. The town, which is irregularly built, contains a large church of various architectural dates. Coal abounds in the vicinity, and several pits have been sunk here. Newent is a polling place for the western division.

Stow-on-the-Wold, a market-town twenty-three miles E. N. E. of Gloucester, stands on the top of a high bleak hill, the base of which is about three miles in diameter. The church is a well-built edifice, erected during the fourteenth and fifteenth centuries. The principal manufacture of the town is shoes. Stow has a free grammar-school, and several charities.

Winchcombe, a market-town fifteen miles north-east of Gloucester, is on a small stream called the Isbourne, which runs into the Upper Avon. It is a place of great antiquity, and once enjoyed peculiar privileges. The church, a fine Gothic structure, indicates the former importance of the town. There is an endowed grammar-school, three charity-schools, and an almshouse. Before the growth of tobacco to any extent was forbidden in this country, Winchcombe, where it was said to have been first grown in England, was noted for its plantations.

Chipping (*i. e.* market) Campden, twenty-seven miles north-east of Gloucester, near the confines of Worcestershire, is a very ancient place, and has a very old church, which contains a number of curious marble monuments. It is a polling place for the eastern division.

Lechlade, twenty-eight miles E.S.E. of Gloucester, is near a small stream called the Lech, and at the south-eastern angle of the county, where the four counties of Gloucestershire, Wiltshire, Berkshire, and Oxfordshire meet. The river Thames first becomes navigable here for barges of seventy or eighty tons burden, and here also commences the Thames and Severn canal. Owing to its position, the place has much traffic in the produce of the country and in London goods to and from the metropolis. Many antiquities have been found at Lechlade, which give reason for supposing that it was a Roman station.

Fairford, four miles from Lechlade, and twenty-four miles E.S.E. of Gloucester, is situated on the Coln, which joins the Thames at Lechlade. The church in this town, erected in the reign of Henry VII., is a very handsome edifice: it owes its origin to John Tame, a merchant of London, who came into possession of a captured vessel bound to Rome, in which there was a large quantity of curious painted glass. In order to place this glass in an advantageous situation, he built this church with twenty-eight large windows, in which are represented the most striking passages of the Old and New Testament. These paintings, which are considered extremely beautiful, were designed by Albert Durer, to whom the greatest improvements in the art of painting in glass are attributed. Some of the figures are so well finished, that Vandyke said the pencil could not exceed

them. This church is 125 feet long, and 55 broad.

There is a free-school at Fairford, with an endowment of about 130*l.* per annum, and several charities.

Bristol is partly in Somersetshire and partly in Gloucestershire: a description of this city will be given in the former county.

Population of cities and market-towns of Gloucestershire :—

Gloucester	11,933
Cheltenham	22,942
Stroud	8607
Painswick	4099
Bisley	5896
Minchinhampton	7255
Cirencester	5420
Tewkesbury	5780
Wotton under Edge	5482
Thornbury	4375
Tetbury	2939
Fairford	1574
Lechlade	1244
Wickwar	972
Chipping Sodbury	1306
Marshfield	1651
Dursley	3226
Berkeley	3899
North Leach	795
Newnham	1074
Coleford	2193
Winchcomb	2514
Moreton-in-the-Marsh	1331
Chipping Campden	2038
Stow-on-the-Wold	1810
Mitcheldean	601
Newent	2859

Authorities.

Fosbrooke's History of Gloucestershire.

Rudge's Tour.

General View of the Agriculture of Gloucestershire.

The History of Fairford Church.

Britton's History and Account of Gloucester Cathedral.

Lyson's Gloucestershire Antiquities, &c.

WILTSHIRE

Is an inland county, bounded on the east by Berkshire, on the east and south-east by Hampshire, on the south-west by Dorsetshire, on the west by Somersetshire, and on the north-west and north by Gloucestershire. It is of an elliptic form, its greatest diameter from north to south being forty-five miles, and from east to west about thirty-five miles. Its area is 1379 square miles. The general aspect of the county differs so much on the north and south, that the two districts require a separate description. On the south there is an extensive tract of chalk downs, which enter Wiltshire between Winchester and Salisbury, and run on to Shaftesbury near the south-west border of the county. The chalk district extends north, occupying all the breadth of the county to the Marlborough Downs and Aldbourne Chace; the southern and hilly part of the county, as thus described, is the larger part of the two. When viewed from a distance, this chalk district has the appearance of an extensive plain, but on a nearer view it turns out to be a succession of elevations and depressions, forming extensive valleys, and chains of hills, with rather an abrupt slope on one side, and on the other running out into extensive and tolerably level downs. In no part, however, does the ground rise high enough to assume a mountainous character. The whole of this district is usually divided into two parts, the Marlborough Downs and the Salisbury Downs or Plains, which are partly separated by the valley of the Kennet. A fertile and extensive valley runs from Hungerford in Berkshire to Devizes in Wiltshire nearly in a direct line from east to west; it then takes a bend more to the south, through Westbury to Warminster, where it meets the vales which belong to the course of the Avon and its branches.

This county is one of the most interesting parts of England to the antiquarian: it abounds in British and Roman remains. Numerous British settlements and encampments may still be traced, and abundantly show that Wiltshire was in those early days a place of great importance.

Around Stonehenge, on Salisbury plain, is the most extensive level tract. Long Knoll, near Maiden Bradley, the highest point in the county, is only 973 feet above the level of the sea at low-water mark. The valleys which lie along the margins of the rivers are at intervals well covered with plantations of wood, and in some spots they are under tillage, but for the most part they form rich meadow land, improved by irrigation. The northern district is nearly one entire level, being chiefly composed of a rich tract stretching north-east and south-west, and rising

gradually to the north-west till it joins the high lands of Gloucestershire: this part is extremely well wooded, and contains some arable land as well as many tracts of fine pasture ground.

The principal rivers in Wiltshire are the Thames, the Lower Avon, the Avon, the Bourn, the Wily, the Nadder, and the Kennet. The upper branches of the Thames drain only a very small part of the northern extremity of the county. The Bourn rises among the hills about five miles south-west of Great Bedwin: after passing Tidworth it runs through a small portion of Hampshire, then re-enters this county, and flowing by Allerton and Winterbourne joins the Avon near Salisbury. This river only flows in the winter months. The Wily rises near Warminster, and runs by Heytesbury to Wilton, where it is joined by the Nadder, which rises near Shaftesbury; the united stream joins the Avon on the right bank near Salisbury. The Lower Avon rises to the north-west of Malmesbury on the borders of Gloucestershire; passing through Malmesbury, it takes an irregular course in a southerly direction to Chippenham, and thence inclining to the west to Bradford enters Somersetshire a few miles from that town. The Avon rises three miles east of Devizes, and taking a winding course in nearly a southerly direction, passes through Amesbury and Salisbury, and thence out of the county into Hampshire. The Kennet rises a little to the west of East Kennet, and passing by Marlborough enters Berkshire at Hungerford. Several canals traverse this county. The Berks and Wilts canal, already described in the account of Berkshire, enters this county on the north-east, about five miles from Swindon, through which town it passes, and runs in a south-west direction till it joins the Kennet and Avon canal at Semington. Near Swindon a branch runs to the north, which, passing Cricklade, communicates with the Thames and Severn canal about two miles from Cricklade. Two other branches of the Berks and Wilts canal lead respectively to the towns of Calne and Chippenham. This canal is 52 miles in length, 27½ feet in breadth at the surface, 14 feet at the bottom, and 4½ deep. The Kennet and Avon canal enters this county from Berkshire at Hungerford, and taking nearly a westerly direction passes by Devizes, Semington, and Bradford, a few miles from which last town it enters Gloucestershire. This canal is fifty-seven miles in length, and in its course passes through several tunnels and over some aqueducts: it was first opened in 1810.

The soil of the northern district principally consists of a calcareous reddish loam, on a stratum of loose, irregular, flat broken stones, which lie in horizontal beds mixed with earth: sometimes there is an intervening subsoil of cold blue clay, which renders the soil much less fertile than when the loam lies at once upon the stone: this latter is the case with all the land extending from Trowbridge to Melksham, and to Chippenham. On the north, beds sometimes of gravel interrupt the course of the rocks: in these parts the soil is of a much better quality. Some sand-beds likewise run through the northern part. The soil over the greater part of Bradon Forest, situated on the northern skirts of the county, is a cold clay deteriorated by the presence of iron, so as to make the land of the very worst quality. Almost all the trees in this tract, which were very valuable, are now cut down, and have not been replaced; some of the ground is enclosed and cultivated, and some lies waste as common land. Chalk forms the substructure of most of the southern district. The flat tops of the hills have frequently a strong deep soil; the higher lands on the sides of the hills are mostly composed of a chalky loam. Towards the bottom of the hill this is succeeded by a loam intermixed with flint, and the soil of the vales is usually of a deep black earth on a subsoil of broken silex. In some of the larger valleys there are beds of peat without any mixture of flint. This district is likewise intersected by several stripes of a sandy soil. Many of the chalk hills have scarcely more than an inch or two of loose decayed vegetable matter on them. The high ground near Salisbury and the plain about Stonehenge are of this description.

The climate of Wiltshire is cold and bracing, more especially on the downs in the south, and though generally salubrious is not considered particularly favourable for the purposes of arable husbandry. The cold clay lands in some of the river valleys are not wholesome. The greater part of the land is devoted to pasturage. The southern district is almost entirely occupied in the rearing and feeding of sheep, except on the south-west, where there are some

dairy-farms for the making of butter. Some wheat and barley are grown on the high grounds, and potatoes are cultivated on the sandy soil already described. In North Wiltshire the principal part of the land is in dairy-farms, on which large quantities of cheese are annually made. Cheese, indeed, is the staple production of this part of the county; and North Wiltshire cheese is well known as forming one of the principal kinds supplied to the metropolis. Pigs are reared in vast numbers in different parts of the county; Wiltshire bacon ranks among the first in quality. The mineral productions of this county are not very varied. Several quarries of excellent freestone are worked on the west on the borders of Somersetshire; and to the north-east, at Swindon, there is stone of a fine quality, which is much in demand for paving and various other purposes.

Wiltshire is divided into 29 hundreds, containing 306 parishes, 1 city, and 23 market-towns. It is likewise politically divided into northern and southern divisions, each of which sends two members to Parliament. The northern division comprises the hundreds of—Chippenham, North Damerham, Bradford, Melksham, Potterne and Cannings, Calne, Selkly, Ramsbury, Whorwelsdown, Swanborough, Highworth, Cricklade and Staple, Kingsbridge, and Malmesbury. The southern division comprises the hundreds of—Kinwardstone, Heytesbury, Branch and Dole, Elstub and Everley, Amesbury, Warminster, Mere, South Damerham, Downton, Chalk, Dunworth, Cawdon and Cadworth, Frustfield, Alderbury, Underditch, and Westbury.

Devizes*, 88¾ miles west by south from London, is a borough, and sends two members to parliament, a privilege which has recently been extended to part of the Chapelry of St. James's on the east, and part of the parish of Rowde on the west. It is also the town for the nomination of members for the north division of the county. Devizes is of very ancient date, and its origin is supposed by antiquarians to belong to the Roman period: some Roman coins and other antiquities have been found in the neighbourhood. The ruins of a castle on the south-west of the town are the remains of a fortress built in the reign of Henry I. One of the churches contains some parts in the Anglo-Norman, and others in the pointed style. This town consists principally of one wide street, another in the shape of a crescent meeting this at both ends, one intersecting these at their centres, and several branch streets. The first runs in a south-west direction to the Kennet and Avon canal, which is here crossed by a broad bridge, and likewise by three other bridges at the different approaches to the town. The market-place, a wide triangular area, is situated on the principal street. Among the public buildings are two parish churches, a chapel of ease, and a dissenting meeting-house. The Townhall is a handsome modern building. The new county Bridewell, a large and substantial structure, is a little to the west of the town. In the free-school nearly one hundred children of both sexes receive education; besides this school, there are numerous other charities. The trade of Devizes is in a prosperous condition. It has considerable woollen manufactures, and one of the largest corn markets in the kingdom. It has communication both with London and Bristol by means of the canal, and is likewise on the great road by land between these places.

Marlborough, situated on the same road, about thirteen miles E.N.E. of Devizes, is an ancient borough, and sends two members to parliament. The franchise has recently been very much extended towards the west, and likewise somewhat to the east by the addition of the parish of Preshute. Marlborough is on the north side of the river Kennet, and on the south of the river Ogmere, a small stream which falls into the Kennet at this place. The town consists of one principal street, with piazzas extending nearly the whole length of the more elevated side. Four streets branching from this are continued by bridges over the Kennet to meet the road, which runs here on the south bank of the river leading to Salisbury; several other streets diverge from the other side of the principal street. The houses are irregularly built; some are of brick or stone, but the most part of wood covered with tiles. In consequence of some destructive fires, an act of parliament was passed forbidding any person to have thatched buildings within the town. There are two parish churches, besides several

* The old Latinized names of Devizes are Divisio and Divisæ; it is also called Vise and Wyse by the old Chroniclers.

meeting-houses. The church of St. Mary, situated on the eastern extremity of the High Street, is in parts very old, and exhibits various styles of architecture; under the west wall of the tower are the remains of a finely-sculptured Saxon arch. Near this church stands the Guildhall, a tolerably handsome modern structure. Over the market, which occupies the centre of the High Street, are spacious school-rooms for the education of 100 boys, and the same number of girls, on the national system. Marlborough has also a well endowed grammar-school, founded by Edward VI. The prison is a large and commodious building, which serves for both the town and county gaol. A castle formerly stood here, in which, in the year 1267, a parliament was held, which passed the laws still known by the name of the Statutes of Marlbrooke. The town has no trade. At a short distance, on the other side of the river, are the remains of a Roman station; and in the garden of the principal inn there is an artificial mound close to the road, like Silbury hill, but of much smaller dimensions; this probably belonged to the old castle. Near Marlborough there is a figure of a large horse cut out on the chalk: the execution of this work originated in the caprice of a private individual.

Six miles from Marlborough is the village of Abury, or Avebury, which contains some enormous stones of great antiquity, supposed to be the remains of a Druidical temple. According to Stukeley, who took much pains in tracing out the plan of this work, the whole figure of the temple, with its avenues, "represented a snake transmitted through a circle." The work was formed of a circular agger or rampart of earth, with a ditch eighty feet wide and very deep *inside* this area. This distinction always appears in the religious and military works of the British: in the latter the ditch is placed *outside* the *agger*. This ditch at Abury encloses an area of about fourteen hundred feet diameter, and about twenty acres. A row of large stones were placed on end all round and within the enclosure; within this circle there were two smaller circles, composed of about 151 enormous stones, many of them from fifteen to seventeen feet in height, and nearly as much in width. Two long avenues, marked by large rude stones, extended on each side of the enclosure to the distance of above a mile, forming part of the figure of the serpent. In 1812, seventeen of the stones which composed the circles were standing, and five which had fallen were left on the ground. Since that date several stones have been broken up for mending the roads, and there are now only a few left. The ditch and mound are in pretty good preservation. Numerous barrows or tumuli, as already observed, occur on the chalk downs of Wiltshire. One near the village of Abury, called Silbury Hill, is 170 feet in perpendicular height; its form is the frustrum of a cone having a base above 500 feet and its vertex about 120 feet in diameter. It covers nearly 5¼ acres of ground, and is larger than the third of the pyramids of Jizeh. It stands close to the Bath road.

Swindon, a market-town seventeen miles N.N.E. of Devizes, stands on the summit of a considerable eminence; the houses are in general well-built and of stone. It contains one church and a free-school. No particular business is carried on in this town, but it is the residence of many persons of independent fortune. From the neighbouring quarries stones are got of considerable size, and in quality little inferior to the Portland stone. These quarries, which are very extensive, give employment to many of the labouring class of the town; husbandry principally engages the remaining portion of the working population. Swindon is one of the polling-places for the county.

Wotton Basset, thirty-four miles north by west of Salisbury, a very ancient borough, was disfranchised by the Reform Act. It is a small town, with an old church, and two free-schools founded by the Earl of Clarendon.

Highworth, forty miles north by east of Salisbury, stands on a high situation: most of the houses are built of stone. The church is divided into a nave, side aisles, a chancel, two small chapels, and a square tower: it contains several monuments.

Cricklade, a borough on the south banks of the Thames, twenty-one miles north by east from Devizes, was formerly much more flourishing than at present. It sends two members to parliament; but in 1784*, in consequence of repeated instances of corruption, the franchise was extended to the freeholders of the hundreds of Highworth

* Act 22 Geo. III. c. 31.

Cricklade and Staple, Kingsbridge, and Malmesbury. The Thames and Severn canal passes near the town. There is a free-school in the town. The Roman road from Cirencester to Speno may be traced here.

Malmesbury, situated in the north-west part of the county, seventeen miles north by west of Devizes, is one of the most ancient boroughs in the kingdom, having been incorporated in the year 916 by Edgar the Elder*. Till recently this small borough sent two members to parliament: since the Reform Act it sends only one, and the franchise has been extended to eight of the surrounding parishes. The municipality, at the time of the corporation inquiry, was reduced to the lowest state of degradation and uselessness: in some years the chief magistrate could neither read nor write. The town is situated at the confluence of a small river called Newtown Water, with the Lower Avon, and is surrounded on all sides by these streams except on the north-west; these rivers are crossed by several bridges. Malmesbury was formerly surrounded by a wall, and had a large, strong castle, both of which have long since been demolished. Some remains of the great abbey still exist, which was founded as a monastic religious house at a very early period of our history. In 670 it was converted into an abbey, which received many grants from the Saxon kings. The buildings at the time of the abbey's greatest prosperity are supposed to have occupied an area of forty-five acres. Little is now left except the church, which appears to have been a very magnificent structure, and still presents one of the richest specimens of old English architecture. The market-cross is a fine old example of that style of building. William of Malmesbury, a well-known early writer on the civil and ecclesiastical history of England, was educated in the abbey. Thomas Hobbes was a native of Malmesbury. This town is neither a place of any trade, nor a considerable thoroughfare. A cloth factory which fell into decay has recently been revived. Malmesbury has three free-schools, and various charities.

Chippenham, in the west part of the county, nine miles north-west of Devizes, an ancient borough, and one of the oldest towns in England, sends two members to parliament: the franchise has recently been extended to the whole parish, as well as to the adjacent parishes of Langley Burrel, Harden-Huish, and a tract of land on the south called Pewisham, which is extra-parochial. The town is situated on a bend of the Bristol Avon, which surrounds it on every side except on the south-east, at which part a branch of the Berks and Wilts canal comes to the town, and supplies it with coals. Chippenham is a place of great antiquity, some evidence of which appears in the church, a large and venerable structure. The town is in general well built, consisting chiefly of two principal streets; it has a new market-house. A handsome stone bridge of twenty-two arches crosses the river. There are one silk, and one cloth manufactory, and one corn-mill. Chippenham has a free-school and several charities.

Calne, six miles N.N.W. of Devizes, on a little stream called the Calne, is a very ancient borough, and till recently sent two members to parliament: this number has now been reduced to one, and the franchise has been extended to the whole parish, and parts of other parishes which are surrounded by that of Calne. The old parliamentary borough comprised only 885 acres; the parish contains 7964 acres. Calne is a town of respectable appearance and considerable extent, with one large handsome parish church, and other places of worship for dissenters, a free grammar-school, and other schools. This town contained some time since considerable manufactures of cloth, which are all abandoned except three. A branch of the Berks and Wilts canal supplies the town with coals. On the east, about three miles from Calne, is the figure of a horse, 157 feet in length, cut on the side of a chalk-hill, which was executed in 1780 to please the fancy of a private individual. About a mile west of the town is Bowood, the seat of the Marquis of Lansdowne.

Melksham, seven miles west by north from Devizes, is a market-town of great antiquity; it principally consists of one long, irregularly-built street, standing on an acclivity near the banks of the Avon. The church is large, with a tower in the centre, and is supposed to have been built in the twelfth century. The manufacture of cloth which

* It is said in the Municipal Corporation Reports, "The Charter of the 8th of William III. recites a charter of Athelstan—but the corporation have no charter in their possession."

is carried on here was formerly in a much more flourishing condition than at present. A few years ago two mineral springs were discovered about half a mile from the town, which are said to be as efficacious as those of Cheltenham.

Bradford, twelve miles west of Devizes, is situated on the Bristol Avon. The streets are narrow and irregular, but contain some good buildings. The church is a spacious structure, with several ancient monuments: near it is the free-school, and on the west end of the town are some almshouses. A bridge crosses the Avon here. This town is well known for the manufacture of superfine broad cloth, of which large quantities are annually made. The Kennet and Avon canal passes near the town.

Trowbridge (anciently Trolbridge) is on the Were, a branch of the Bristol Avon, which it joins near Bradford, about nine miles west by south from Devizes. The town stands on the side of a rocky hill. The streets are narrow and irregular, and the houses are an intermixture of new with old and shabby-looking buildings. It is not known what was the origin of this town, but it must be of ancient date; for the church, which is ascertained to be between four and five hundred years old, is still called the New Church, a presumptive evidence that another had previously existed. The woollen manufacture is the staple business of Trowbridge. Superfine broadcloths and kerseymeres are the kinds of cloth principally manufactured.

Salisbury, or New Sarum, an ancient city, and the principal place in the southern division of the county, is situated in a vale at the confluence of the Wily and Bourne with the Avon, distant seventy-eight miles west by south of London. It sends two members to parliament: the franchise has been recently extended to the liberty of the Close, part of the parish of Milford, and part of that of Fisherton Anger. The Close, which is on the south side of the town, and separated from it on one side by a lofty wall, comprises an area of nearly half a square mile, and contains the cathedral, the bishop's palace, the residences of the prebendaries, canons, and other persons connected with the cathedral, together with those of some private individuals. The see of the cathedral of Old Sarum was removed to Salisbury in the beginning of the thirteenth century, and from this time the existence of the city dates. Salisbury Cathedral is considered one of the finest and most interesting specimens of the architecture of that period, and is remarkable for its regularity, having been all built at once, with the exception of the spire. The tower of the church is at the intersection of the transepts, and rests on four pillars, some of which are very much warped: it is surmounted by a lofty spire, which is of later date than the tower: the whole height is said to be 404 feet. The extreme length of the cathedral is 474, and the extreme breadth 230 feet. On the south side of the church are cloisters and a chapter-house. The Bishop's Palace, which stands near the south-east corner of the cathedral, is a large irregular building, exhibiting various and discordant styles of architecture, almost all its successive occupiers having made some additions or alterations in it. The city is laid out with great regularity, having five principal streets running from north to south, and six others intersecting them at right angles: thus the whole is divided into squares, the fronts of the houses being on the exterior of these squares, and the interior spaces being occupied by gardens, yards, &c. The cleanliness of the city is likewise promoted by little channels, which are cut through the principal streets and communicate with the Avon: the supply of water is regulated by sluices. The Avon is crossed by a bridge on the east of the town, which connects Salisbury with Fisherton. The market-place, a spacious open square near the entrance of the city, contains a curious old building in a hexagon form, having a conical-shaped roof supported by pillars, known as the Poultry Cross. The principal public buildings in this town are—1st. The Sessions House, at the south-east corner of the market-place, a modern and by no means a handsome building; 2nd. The Infirmary, situated near the bridge; 3rd. A County Gaol in Fisherton, which has been recently erected; 4th. A Theatre, besides Assembly and Concert Rooms. At the grammar-school some eminent men have been educated, and among them Addison. Besides this institution for education, there are two charity-schools, a Sunday-school in every parish, and many private establishments of a similar nature. The old charitable insti-

tutions are very numerous. Besides the cathedral there are three parish churches. Salisbury was formerly celebrated for its woollen manufactories, which have now become extinct. A small manufactory of fine cutlery is still carried on, and a silk-factory has lately been established. Salisbury is the nomination and returning place for the south division of the county.

Old Sarum, about two miles north of Salisbury, is situated on a dry and elevated spot, which was successively occupied by Britons, Romans, Saxons, and Normans. It is the Sorbiodunum of the Romans, and the Searabyrig of the Saxons: it was likewise a place of considerable importance in the time of the Norman kings. The earth-works inclose twenty-seven acres. The circumference of the outward ditch is 7 furlongs 26 yards: within the area was a circular earthen work, rising to a greater height than the outward one, which was probably the citadel. The valla of the outward and of the inward works were nearly of equal height: those of the former being 106 feet, and those of the latter 100 feet. A small portion of wall, probably Roman, still stands in the innermost inclosure. There are likewise still remaining several circular mounds of earth, which are supposed to be the relics of the foundation of a castle erected by the early Normans. Old Sarum contained a cathedral, and was a bishop's see, which was removed to Salisbury in 1219. But Old Sarum itself was not originally a bishop's see; it became one in the reign of William the Conqueror, when Herman, Bishop of Sherburn and Sunning, translated his see hither. As Salisbury increased in importance, Old Sarum declined, till at length it sank into insignificance, and now there is not a single house left in or near it; yet till the late Reform of the House of Commons, it retained the privilege of sending two members to parliament. Old Sarum is altogether a most singular and striking place: the whole area, with the ditches and surrounding earth-works, is covered with fine grass; and in the deep trenches are some large trees. Three Roman roads issued from the eastern gate to Winchester, Silchester, and Dorsetshire, respectively.

Wilton, a borough and market-town, three miles and a half west by north of Salisbury, till recently sent two members to parliament: the number has now been reduced to one, and the franchise, which was before very limited, is now extended over a much larger district. Wilton is a place of great antiquity, and is supposed by some writers to have been the chief seat of the British prince Carvilius, and to have been the capital of the West Saxon kingdom. An abbey was founded here in 773, but no vestiges of it now remain. A charter was granted to the town by Henry I. Wilton is at present a neat country town, situated at the junction of the rivers Nadder and Wily, which meet at an acute angle on the south-east of the town: its principal public buildings and institutions are the town-hall, a free-school, and St. John's Hospital. It contains two or three manufactories of carpets; but its woollen manufactories have almost entirely disappeared. To the south of the town is the splendid seat of the Earl of Pembroke, originally built out of the suppressed abbey, situated in an extensive and well-wooded park.

Westbury on the Wer, an old borough: before the Reform Act it was represented by two members, but at present only by one; the franchise has been extended to the whole parish, which comprises 12,000 acres. The town is twenty-one miles north-west of Salisbury. It principally consists of one street, running nearly north and south. The town-hall stands near the centre of the town: part of it is used as a wool-hall. A considerable business in matting is carried on here; and there is a manufacture of broad cloth, but it is not near so flourishing as formerly. Westbury is supposed by some writers to be the Verlucio of the Romans; others claim the name for Warminster. On the south-east of the town are several ancient tumuli.

Warminster, a market-town of great antiquity, is nineteen miles W.N.W. of Salisbury. About two miles from the town, a Roman villa with a tesselated pavement was discovered a few years since; and on the downs in its vicinity are the remains of a British fortification. The town principally consists of one well-paved, very long street, with houses built of stone. It contains a free grammar-school, a good market-house, and an assembly room. Its principal trade is that of malting; an extensive cloth manufacture likewise afforded much employment to the inhabitants, but within the last twenty years it has very

much diminished. Three miles and a half from this town is Heytesbury, chiefly consisting of one long street. It is a corporate town, and contains an hospital and almshouses. The town and its vicinity for three miles round abound with interesting antiquities of the British, Roman, Saxon and Danish period. Heytesbury has a small woollen manufactory. It is a disfranchised parliamentary borough.

Mere, a market-town, about twenty miles west of Salisbury, is an irregularly built place, with a small cross or market-house. The inhabitants are chiefly engaged in the manufacture of bed-ticking.

Downton, five miles S.S.E. of Salisbury, is a place of great antiquity, and sent two members to parliament, till it was disfranchised by the Reform Act. This town is situated near the Avon, and is principally distinguished for the remains of its ancient castle, which was once a place of great strength and importance. The earth-works of the castle are extensive: in the centre is a large conical mound surrounded by lofty valla. The church is built in the form of a cross, and has a handsome tower rising out of the intersection. Downton has a free-school.

Hindon, fifteen miles west by north of Salisbury, is a disfranchised borough. It principally consists of one street, built on the side of a gentle eminence. In the neighbourhood are the traces of an ancient British village, where Roman coins, pottery, &c., have been found, which show that this spot was once occupied by the Romans as well as by the Britons.

Amesbury (originally Ambrosebury,) on the river Avon, nine miles by the road north of Salisbury, was in ancient times a place of some note, but is now of no importance. It contains the ruins of an abbey founded by Elfritha, wife of King Edgar. Amesbury is the birthplace of Addison. It contains two charity schools. About two miles from the town is Stonehenge. The present appearance of Stonehenge is that of a number of stones of immense size, placed in circles, some still retaining their erect position, and some wholly or in part fallen down: they are supposed to be the remains of a Druidical temple. The whole work is surrounded by a ditch and slight *agger*, or wall of earth, 369 yards in circumference. An entrance facing the north-east is indicated by a bank and ditch called The Avenue. Within the ditch, at 100 feet distance, are concentric rows of stones, consisting of two circles and two ovals. The outward circle, which is about 300 feet in circumference, is composed of large upright stones, some of which bear others on their tops, thus forming a kind of architrave. The stones are irregular in their size and form, though many of them have evidently been worked into some shape. The height of those on each side of the entrance is little more than 13 feet: the breadth of one is 7 feet; of the other 6 feet 4 inches: the imposts over them are 2 feet 8 inches deep. From the position of the stones left standing, it is supposed that this circle consisted originally of thirty stones, seventeen of which are still in their original position. At the distance of little more than 8 feet from this outward circle, is another composed of smaller stones, of a rude and irregular shape. Forty stones originally composed this circle; but traces of only twenty now remain. Within this is the cell or sanctum, which is two-thirds of a large and of a concomitant small oval, consisting of five pairs of large upright stones, with a third laid over each pair as an impost. These stones are of unequal heights, from 16 feet 3 inches to 21½ feet. In January, 1797, one of these pairs of uprights with the impost fell down. One of the stones measured 21 feet 4 inches, and the other 21 feet 3 inches: they were rather more than 4 feet in the ground; the impost measured 16 feet 4 inches in length. The inner oval consisted of nineteen stones, and there are still traces of eleven of them. The most perfect of these is 7½ feet high, and 23 inches wide at the base, decreasing to 12 inches at top. The altar stone is 15 feet long. The inside diameter of the whole construction is about 100 feet. This description of Stonehenge would not agree with the appearance of the place on a cursory view. Sir R. Colt Hoare, who was indefatigable in his investigations on this subject, remarks: "Such is the dilapidation and such the confusion of the displaced fragments, that no one who has not, as I may say, got the plan by heart, can possibly replace them in imagination according to their original destination." Yet these ruins in themselves cannot fail to be an object of great interest; as Stukeley well observes, "Other buildings fall by piecemeal, but

here a single stone is a ruin, and lies like the haughty carcase of Goliath. Yet there is as much of it undemolished as enables us sufficiently to recover its form, when it was in its most perfect state: there is enough of every part to preserve the idea of a whole."

A little to the north of Stonehenge is another interesting relic of antiquity—a British or Roman cursus or race-course, which extends in a straight line from east to west nearly one mile and three-quarters in length; the breadth is 110 yards. At the eastern extremity is a mound of earth running across the whole cursus, supposed to be the place set apart for the company who witnessed the race.

Ludgershall, fifteen miles N.N.E. of Salisbury, is a disfranchised borough. Till the Reform Act it had sent one member to parliament from the reign of Edward I. There are the remains of a castle founded soon after the Norman æra.

Bedwin, twenty-two miles N.N.E. of Salisbury, is of very ancient origin, and supposed by Stukeley to have been the Leucomagus of the Romans. It certainly was a place of some importance in the time of the Saxons, but it is now a very inconsiderable town. Bedwin sent two members to parliament, but was disfranchised by the Reform Act. The church is a very ancient and curious structure, built of flints in the form of a cross; it contains many curious monuments. The church in the neighbouring village of Little Bedwin is likewise a building of flints in the Anglo-Norman style of architecture.

Population of the cities and market-towns of Wiltshire:—

Salisbury	9876
Devizes	4562
Chippenham	4333
Marlborough	3426
Bradford	10,162
Downton	3652
Calne	4876
Malmesbury	2293
Melksham	5866
Cricklade	1642
Mere	2708
Heytesbury	1412
Warminster	6115
Wilton	1997
Trowbridge	10,863
Westbury	7324
Swindon	1742
Wootton Basset	1896
Ludgershall	535
Lavington	[illegible]
Hindon	921
Highworth	3127
Bedwin	2191
Amesbury	944

Authorities.

Sir R. Colt Hoare's History of Ancient Wiltshire.

Davis's General View of the Agriculture of Wiltshire.

Dodsworth's Account of Salisbury Cathedral.

DORSETSHIRE

Is bounded on the north by Wiltshire and Somersetshire, on the north-west by Somersetshire, on the west by Devonshire, on the south by the English Channel, and on the east by Hampshire. It is of a very irregular figure: a small detached portion is surrounded by Devonshire, and a very small piece of Somersetshire is included in Dorsetshire. Its greatest length from east to west is forty-seven miles, and from south to north thirty-two miles; its area is 1005 square miles. The coast of Dorsetshire is about seventy-five miles long. From near Lyme Regis to the mouth of the Brit, the coast is high (see p. 54): from a point a few miles east of the mouth of the Brit the coast is low, till we come to the rocky promontory generally called the Isle of Portland, which forms one of the most singular projections on the south coast of the island. In the bay formed by Portland Island and the bend of the coast to the north, called Weymouth Bay, the coast is generally low; but about two miles north of Melcombe Regis, the cliffs commence again, and continue without interruption to Durlestone Head and Peverel Point (see p. 54). The promontory called St. Adhelm's Head, a conspicuous feature of the Dorsetshire coast, is the most southern point of this range. On the summit of the precipice stands a small ancient stone chapel, dedicated to St. Adhelm, in the style of the commencement of the twelfth century. The climate of Dorsetshire is considered extremely mild and healthy, which character it appears to have had from the earliest times, since it was selected as a favourite summer retreat, both by the Romans and Saxons. The general appearance of the country is uneven, and in many parts very hilly; but none of the elevations reach to a great

height. Swyer Hill, the highest spot, is only 669 feet above the level of the sea*. This county is in no part very thickly wooded: its most striking feature is open, uninclosed downs, which are used for the pasturage of sheep.

The principal streams are the Stour, the Frome, the Piddle, the Ivel, the Brit, and the Char. The Stour rises in Wiltshire, and entering Dorsetshire on the north, takes a south course a little inclining to the west till it comes within a few miles of Stalbridge: it then runs a south-east course, and passes by Sturminster, Blandford, and Wimbourne, a few miles below which last town it flows into Hampshire, and enters the sea at Christchurch. The Frome rises in the western part of the county, about four miles north-east of Beaminster, and having received some small streams flows in a south-east direction past Maiden Newton, and Frampton, to Dorchester: it then takes a more easterly course, and falls into Poole harbour a little below Wareham. The Trent or Piddle rises near Alton, takes a south, and then a more easterly course, and passing Piddletown continues its course to Poole Bay, into which it falls about half a mile north of the Frome. The basin of the Frome and Piddle is included between the range of high-lands that run from Okeford on the Stour to the neighbourhood of Beaminster, and the range that runs from near Bridport along the coast to Studland Bay. The Ivel, rising from several springs in a hill a little north-east of Sherbourne, has a winding course to the west, and joins the Yeo on the borders of Somersetshire. The Brit rises a little to the north-east of Beaminster, which town it passes, and then takes a south course past Bridport to the sea. The Char rises near Pillesdon, and running a south and south-west course enters the sea at Charmouth. Several mineral springs are found in this county.

The soil varies in different parts. Towards the west on the low grounds it is mostly a deep rich loam: on the more elevated land it is a sandy loam, intermixed with silex. On the northern and western parts of the county is the vale or forest of Blackmore, nineteen miles long, and fourteen wide, which contains some fine arable land, as well as rich pasturage. On the south in the Isle of Portland, and most parts of the Isle of Purbeck, the soil is a stone brack. In the centre of the county, the soil on the low-lands is a deep, rich loam. The open and uninclosed parts are in general poor land; a great portion of which is covered with heath. The soil of the downs is principally a light, calcareous earth, which is covered with a remarkably fine turf. The greater proportion of land is devoted to pasturage. Irrigation is employed on the meadow lands. Much attention is paid to the breeding of sheep, of which great numbers are annually exported. On the land under tillage, the usual crops are wheat and barley: a considerable quantity of hemp is raised in the neighbourhood of Bridport, and manufactured into twine, cordage, netting, sacking and sail-cloth.

Among the mineral productions is a bituminous, slaty coal, which burns with a bright, lively flame, but emits so disagreeable a smell, that its use is confined to some of the poorer classes. It is found at Kimmeridge, on the south coast of Purbeck Island. The coal occurs in a low cliff composed of argillaceous and calcareous strata. Iron is found, mixed with gravel and sand. A great variety of fossil shells and organic remains are discovered in the rocks of this county. The stones for which it is most noted, are two kinds of freestone, extensively employed in building and paving, which are quarried in the Isle of Portland and in Purbeck. A kind of coarse marble is also got in Purbeck, which has been used in the interior of several of the English cathedrals. A similar marble is found at Petworth in Sussex.

The county of Dorsetshire sends three members to parliament. It is divided into nine divisions, which comprise thirty-four hundreds and twenty-two liberties, and contain 276 parishes, and twenty market-towns. The divisions are — Blandford, Blandford (South), Bridport, Cerne, Dorchester, East Shaston, West Shaston, Sherborne, Sturminster.

North Blandford.

1. Coomb's Ditch
2. Pimperne
3. Rushmore

} Hundreds.

i. Dewlish Liberty.

South Blandford.

4. Corfe Castle
5. Bere Regis

} Hundreds.

* See p. 55 for the Dorsetshire hills.

6. Hundredsbarrow
7. Hasilor
8. Rowbarrow
9. Winfrith
} Hundreds.

ii. Bindon
iii. Owermoigne
iv. Stoborough
} Liberties.

Bridport.

10. Beaminster-Forum, and Redhone
11. Eggerton
12. Godderthorne
13. Whitchurch-Canonicorum
} Hundreds.

v. Broadwinsor
vi. Frampton
vii. Lothers and Bothenhampton
viii. Poorstock
} Liberties.

Cerne.

14. Buckland Newton
15. Cerne, Totcombe, and Modbury
16. Whiteway
} Hundreds.

ix. Alton Pancras
x. Piddletrenthide
xi. Sydling St. Nickolas
} Liberties.

Dorchester.

17. Culliford-Tree
18. George
19. Piddletown
20. Tollerford
21. Uggscombe
} Hundreds.

xii. Fordington
xiii. Isle of Portland
xiv. Piddlehinton
xv. Sutton-Poyntz
xvi. Wayhouse
xvii. Wyke Regis and Etwall
} Liberties.

East Shaston.

22. Badbury
23. Cogdean
24. Cranborne (part of)
25. Knowlton
26. Loosebarrow
27. Monckton-up-Wimborne
28. Sixpenny-Handley (part of)
29. Wimborne St. Giles
} Hundreds.

West Shaston.

Cranborne (part of)
Sixpenny-Handley (part of)
} Hundreds.

xviii. Alcester
xix. Gillingham
} Liberties.

Sherborne.

30. Sherborne
31. Yetminster
} Hundreds.

xx. Halstock
xxi. Ryme Intrinsica
} Liberties.

Sturminster.

32. Brownshall
33. Redlane
34. Sturminster-Newton-Castle
Hundreds.

xxii. Stower-Provost Liberty.

From the establishment of the see of Salisbury, this county continued to form part of that diocese, till it was disunited, 31 H. 8, and made part of the newly-erected bishopric of Bristol. In the re-arrangement of dioceses under the provisions of the late Act of Parliament, it has been again restored to the jurisdiction of the Bishop of Salisbury.

Dorchester, a borough, the county town and place of election, is situated on an ascent on the south side of the Frome, about 116 miles W.S.W. of London. It sends two members to parliament. The parliamentary borough was enlarged by the Boundary Act. Dorchester is supposed to be the site of the Durnovaria of the Antonine Itinerary, and from the numerous antiquities discovered at different times it was probably a place of some importance. About half a mile on the south of the town is a Roman amphitheatre, now called Maumbury Ring, which is computed to be of sufficient dimensions to accommodate 12,960 persons[a]. About a mile south-west from Dorchester, on the summit of a hill, is another relic of antiquity, consisting of an extensive ancient camp, of an irregular form, called Maiden Castle. It is surrounded by high ramparts and deep ditches. Its circumference within the inner rampart is about a mile and a quarter, and its area forty-four acres. Maiden Castle is supposed to be of Roman origin; but some antiquarians, with great appearance of probability, consider that it was originally a British fortification. The walls being composed of mud, the irregularity of their form, the ditch and vallum running across, the numerous tumuli and barrows in the vicinity, are all evidences that it was of British construction, though the Romans might afterwards have occupied it as one of their military stations. Half a mile west of Dorchester is another ancient

[a] Stukeley's Itinerarium Curiosum.

camp, called Poundbury Camp. It is supposed by Camden and Speed to be of Danish origin; but Stukeley gives reasons for attributing it to the Romans. It stands upon the bank of the Frome, which is here very steep; this camp is 1890 feet long, and 735 broad.

Dorchester is of an irregular quadrangular figure, consisting of clean, wide streets, paved and lighted with gas. Almost all the houses are well built; the dwellings of the poorer classes are nearly entirely confined to the neighbouring village of Fordington. There are three churches, a spacious town-hall, and a shire-hall, which is a neat, plain building. The county gaol, situated to the north of the town, includes a penitentiary and house of correction. It is arranged according to Howard's plan, and is peculiarly well adapted to its purpose. This town has two free-schools, besides other charitable institutions. On the banks of the river east of the town is a cloth factory: this manufacture formerly was carried on to a much greater extent than at present; but the town is described as being generally in a flourishing state. Dorchester has long been celebrated for its ale, which is brewed in large quantities. There are cavalry barracks a little to the west of the town.

Abbotsbury is a small market-town, seven miles and a half south-west of Dorchester, situated near the sea; the inhabitants are much engaged in the mackerel fishery on this coast. The town lies in a valley protected and surrounded by high hills, and consists principally of three streets arranged in the form of the letter Y. It derived its name from a large abbey founded here in the eleventh century. Little now remains of the conventual buildings but an ancient barn, part of which is still used, and attests by its great extent the ample possessions of the abbey. The church attached to the monastery is, with the exception of the porch, entirely demolished. Half a mile south-west of the town is St. Catherine's Chapel, a small building supposed to have been erected about the time of Edward IV. Its elevated situation makes it serve both for a sea and land-mark. The whole building is now in a state of decay. About a mile and a half west of Abbotsbury is an old fortification called Abbotsbury Castle. Its form is nearly square, inclosing an area of about twenty-seven acres. A mile south-west of the town there is a decoy, where large quantities of fowl are annually taken; and in the neighbourhood is a swannery, which formerly belonged to the abbot, at which time the swans appear to have been much more numerous than at present, and are said to have amounted to the number of seven or eight thousand.

Bridport, (formerly written Burtport and Birtport) lies in a valley on the river Brit, about two miles from the sea-coast, where the harbour is with which the town is connected by an excellent road. A design has been entertained of cutting a ship canal to the town, but the expense is for the present an obstacle to the execution. The borough of Bridport is fifteen miles west of Dorchester. It sends two members to parliament: the parliamentary borough was extended by the Boundary Act, and besides other additions, comprehends the harbour of Bridport. The road from Dorchester to Exeter passes through Bridport, and forms the main street. The principal streets are wide and tolerably well built. The town is at present lighted with oil; but it is in contemplation to substitute gas. The church is a large Gothic structure in the form of a cross. This, and two curious old buildings in South-street, are among the remnants of the old town. Besides the church, there are four places of worship for dissenters. There are an endowed charity school, almshouses, and several other benevolent institutions. About the middle of the last century wooden piers were erected at the mouth of the river, extending some little way into the sea, a basin was excavated to form a haven for shipping, and flood-gates made for scouring out the sand which accumulates at the entrance of the harbour: other improvements have since been made*, and the harbour will now admit ships of from two to three hundred tons burden. In 1832, the customs' establishment was made independent of that of Lyme, and the privilege of bonding and warehousing goods was given to Bridport. The manufactures are twine, lines, fishing-nets, sail-canvas and shoe-thread. Cordage has from a very early date been made here in such perfection, that in the reign of Henry VII. an act was passed pro-

* Under an Act of the year 1822.

hibiting its manufacture any where in England except at Bridport, or within five miles of this place. The exports of Bridport are the manufactures of the place, with butter and cheese: the imports are hemp, flax, deals from the Baltic, coals, culm, slates, spirits, groceries, &c. There is an iron foundry a little to the west of the town, and a spinning-mill on the banks of the river. A bridge connects Bridport with Allington, a village on the other side of the river, which appears to be inhabited by the poorer class of inhabitants: part of the parish of Allington is included in the new parliamentary borough. To the south of the town is a large brewery.

Lyme Regis, a small and irregularly built town, twenty-two miles west of Dorchester, at the extreme south-west part of the county, is surrounded by hills on the land-side. The regular trade of the place is inconsiderable, and the port seems chiefly valuable as a place of refuge for small vessels in bad weather. The harbour consists of two artificial piers enclosing a basin; one of these piers is called the Cobb, and was originally built as early as the reign of Edward III.: the keeping up of the cobb and the dues is now regulated by an act of the year 1821*. The town is visited in summer as a watering-place; but the streets are not lighted, and in every respect it has the appearance of a poor and inconsiderable place. Besides the church there are two meeting-houses, and a free-school. This town till recently sent two members to parliament; the number is now reduced to one, and the parliamentary borough comprises the whole parish of Lyme, and the adjoining parish of Charmouth.

The towns of Weymouth and Melcombe Regis are delightfully situated on the west side of a beautiful bay, which makes a semicircular sweep of two miles, and is sheltered from the north winds by the surrounding hills. They are divided from each other by the little river Wey, near the mouth of which they stand. The former is a fashionable watering-place, and is connected with the latter by a handsome bridge over the Wey. Melcombe Regis is built on low ground, much of which has been reclaimed at different times from the backwater of the harbour, and thus forms a tongue of land between the backwater and bay. The width of this tongue at the north-east extremity is only sufficient for the esplanade and turnpike road, but it widens gradually as it extends towards the harbour. Embankments of other parts of the backwater are at present in progress. Weymouth and Melcombe Regis were formerly distinct boroughs, and both sent members to parliament as early as the reign of Edward II.: they were incorporated as one borough by an act of the 13 Elizabeth. Till recently the borough sent four members to parliament; the number is now reduced to two. Weymouth, though an ancient place, and in early periods of our history politically and commercially of more importance than at present, had gradually decayed to a mere fishing-town, till towards the end of the last century, when George III. visited it as a watering-place, which circumstance made it a fashionable resort. Weymouth still retains its original character as a fishing-town: the improvements and modern buildings occasioned by the influx of visiters having mostly taken place at Melcombe. Here are a theatre, an assembly-room, a public library, an esplanade, and the usual accommodations of a watering-place. Besides the parish church another has been recently built, and there are meeting-houses for Quakers and Independents, and a Roman Catholic chapel. A battery and several small forts have been erected at different times. To the north of the town are barracks, which are at present occupied as private dwellings. On a high cliff, about one mile south of Weymouth, are the ruins of Sandisfoot castle, which was built in the reign of Henry VIII.

Portland Isle, three miles south of Weymouth, is properly a peninsula, since it is connected with the mainland by a very singular bank of pebbles called the Chesil bank, which extends eight miles north-west from the island along the coast, leaving a very narrow channel between it and the coast. The island is about four miles and a half in length, and one mile and three quarters in extreme breadth. It consists of nearly one mass of freestone, commonly called Portland stone, which is largely exported to London and other parts of the kingdom for building. On the north side, opposite to Weymouth, is the only landing-place on the island; the rest is surrounded by high, inaccessible cliffs. The landing-place is pro-

* See the account of the Cobb in the Reports of the Corporation Commissioners.

tected by a fort built in the reign of Henry VIII., which is still maintained, and is the residence of the governor when he visits the peninsula. The ruins of a castle of much more ancient date are still seen on the edge of an almost perpendicular cliff. The navigation in the vicinity of Portland being extremely dangerous, two light-houses have been erected on the south part of the island. There is but one church on it. The quarries are situated in different parts all through the island; the land not thus occupied is under excellent cultivation, or is kept as pasture for sheep. The usual crops are wheat, oats, peas, and barley. Strata of black and red schistus, and of a species of stone called sugar-candy stone, are also found in the island. Fish abound along the coast from Lyme Regis to Portland, especially mackerel, the fishery for which is very largely carried on from April to June.

To the east of Weymouth is the district commonly termed the Isle of Purbeck, which comprehends the south-eastern angle of the county, and is a peninsula surrounded by the sea on the south and east, by Poole Harbour and the river Frome on the north, and by a small rivulet called Luckford Lake on the north-west; it is connected with the main land by a narrow isthmus on the west. Its greatest length is about twelve miles, and the average breadth about seven. The whole island was anciently a warren, and was made a forest by King John. A high ridge of chalk hills, which follows the coast from the neighbourhood of Melcombe Regis, runs through the isle from west to east, dividing it into two parts, and terminates in an abrupt cliff at Handfast Point. The north part is chiefly an uncultivated heath, but the south part of the island is fertile. The soil is calcareous, partaking of the prevailing character of the rocks, which are for the most part a mass of limestone of various qualities; one kind, which takes a polish, is commonly called Purbeck marble. It consists chiefly of shells imbedded in calcareous matter, and bears a good polish, but is apt to perish when exposed to the external atmosphere. A kind of slate and a hard paving-stone are also found. On the north, near Wareham, is dug a stone of an iron colour, commonly called fire-stone. On the north side of the chalk hills, in the vicinity of Corfe Castle, a very pure potter's clay is dug.

Corfe Castle, a borough in Purbeck, eighteen miles east by south from Dorchester, is a small town, which derives its name from the castle, supposed to have been built in the tenth century. From the security of its situation, this castle was sometimes the temporary residence of the kings of England, and sometimes converted into a state prison. After the civil wars it was demolished by order of parliament, and though now a heap of ruins, it still shows traces of its former strength. The town consists of a market-place and three diverging streets of mean stone buildings. A Gothic church stands in the centre of the town. The inhabitants are chiefly employed in the clay-works and stone-quarries in the neighbourhood. The whole annual export of potter's clay from the isle of Purbeck is said to exceed 30,000 tons*. Corfe Castle is of considerable antiquity, but it was not represented in parliament previous to the 14th Elizabeth, from which time it sent two members to parliament, till it was disfranchised by the Reform Act. This town was anciently of more importance than at present; its decline may be dated from the time of the destruction of its castle.

Swanage, a small town situated in a bay between Handfast Point and Durlestone Head, from which bay it takes its name, is twenty-two miles and a half E.S.E. of Dorchester. The town consists of a street a mile long, the houses in which are chiefly built of stone; but the old buildings are usually low and mean. A spacious hotel has recently been erected here, and several commodious lodging-houses, which have been frequented for the purpose of sea-bathing. The church is a large building, some parts of which are of great antiquity, but it has been enlarged at different times as the parish increased, and consequently displays various styles of architecture. Large quantities of stone for building and paving, dug from the hill immediately above the town, are annually exported from this place. A herring fishery, and the business of curing the herrings, first established here in 1788, still continue to flourish, and afford employment to a considerable number of persons. The

* Corporation Commissioners' Reports.

bay is sufficiently deep to admit vessels of 300 tons, but the bottom is so sandy that the anchorage is bad.

Wareham, a borough, situated near the confluence of the rivers Frome and Piddle, is fourteen miles east of Dorchester. It stands on a gentle eminence sloping towards the Frome, over which there is a bridge of six arches, and near it a commodious quay. On the north there is another bridge of three arches over the Piddle. The town is small, but regularly laid out; the two main streets are wide, and intersect each other at right angles; the houses are in general well built. This place had formerly eight churches, which number is now reduced to three, in only one of which service is performed; one of the churches is turned into a national school-room. Here was a priory, one of the most ancient in the country, having been founded, as is supposed, in the eighth century. Wareham is a place of great antiquity. It is surrounded by an earthen rampart, of very ancient but uncertain date: the whole space within was once, it is supposed, filled with buildings, but at present a large portion of it consists of fertile and well-cultivated garden ground. Only vessels of twenty or thirty tons can come up as far as the town; those of fifty or sixty tons can come within half a mile of the quay at spring tides. Much of the clay dug in the neighbouring pits in the isle of Purbeck is brought to this quay, where it is placed in boats and carried down the river to Poole, and there shipped for the Staffordshire potteries. From the reign of Edward I. till the Reform Act it sent two members to parliament; the number is now reduced to one, and the parliamentary borough is much enlarged: to the south it takes in the whole parish of Corfe Castle. Wareham is a polling place for the county.

Poole, twenty miles east of Dorchester, a borough and sea-port town, was created by charter in the 10th year of Elizabeth a county of itself. It is situated on a peninsula in a bay, or æstuary, from which it takes its name: this bay communicates with the British Channel by a narrow entrance, and contains many islands, the largest of which is Brownsea. On the west of the town is an inlet called Longford Bay, at the entrance to which is a ferry not more than 100 yards wide. A timber bridge is now being erected near this place, which will connect the town with the opposite district of Hamworthy, now part of the borough; and a new turnpike road from thence to Wareham, which will considerably shorten the distance, is projected. The town consists of several streets running nearly parallel, and others intersecting them. The modern buildings are in general good, but the older part of the town is of mean appearance, and contains a considerable number of poor. Besides the parish church, which is a modern edifice, there is an endowed episcopal chapel recently built, and three meeting-houses. The town-hall is a spacious and modern building; a house of correction and a treadmill are attached to the gaol. The market-house was rebuilt in 1761. The Wool-house, or King's Hall, was of considerable antiquity, but it has of late years been rebuilt. There are a grammar and several charity schools, and a well-attended Sunday school. The quays, which are spacious and convenient, now almost surround the town. This harbour is considered extremely safe for small merchantmen. It extends along the bay about four miles in length; the average depth of water, which is about fourteen feet, admits vessels of 400 tons burden up to the quay. The Newfoundland trade of this port has diminished, but the coasting trade has increased: the clay vessels outwards loaded with Purbeck clay, and the coal vessels inwards form a considerable part of the coasting trade. Near the mouth of the harbour is a bank, from which vast quantities of oysters are carried to be fattened in the creeks of Essex and the Thames. From the reign of Edward III. Poole has sent two members to parliament; the parliamentary and municipal borough is now considerably extended by the addition of the populous tithings of Portstow, Longfleet, and Hamworthy.

Shaftesbury, an ancient borough, twenty-three miles N.N.E. of Dorchester, is situated on the top of a high narrow hill. The streets are mostly irregular, and many of the buildings mean. The houses are in general built of stone quarried in the neighbourhood. Shaftesbury is a place of great antiquity, and some ascribe its origin to the ancient British kings. The discovery of many Roman coins and other circum-

stances make it probable that the Romans had a station here. Alfred the Great built the town, and Elgiva, the wife of his great grandson Edmund, founded a monastery on this spot, which for a long time had great celebrity, and was in a very flourishing condition. Besides the abbey-church, the town contained twelve other churches, of which only four remain. There are three meeting-houses, a town-hall built on five arches, a free-school but moderately endowed, and two almshouses. Shaftesbury, from its elevated situation, is deficient in springs, and water is brought up a very steep ascent daily in carts or on horses. The regular supply of this necessary article gives constant employment to many persons. No manufactures of any kind are carried on here. Till the Reform Act, two members for parliament were sent from this borough: the number is now reduced to one, and the parliamentary boundary very considerably extended. Shaftesbury is a polling-place for the county.

Gillingham, a village on the Stour, four miles north-west of Shaftesbury, has a very old church and a free-school. There are considerable dairy and grazing farms in the vicinity, and some silk-throwing mills.

Stalbridge is a market-town eighteen miles north by east from Dorchester; the whole parish stands on a rocky bottom, whence the neighbourhood is supplied with building stones. The inhabitants are engaged in the manufacture of stockings.

Sherborne, an ancient market-town, pleasantly situated near the borders of Somersetshire and Blackmore Forest, and eighteen miles north by west of Dorchester, is supposed to have been a Roman station, and soon after the conversion of the Saxons to Christianity it was an episcopal see; in the eleventh century, the see was transferred to Old Sarum. The manufactures of Sherborne are now reduced to a small establishment for throwing silk, and another for the manufacture of linen. The ancient conventual, now the parish church, is a very handsome edifice in the form of a cross, chiefly erected in the fifteenth century, though some few portions of it are of much older date. The interior is very richly ornamented. Besides the church, there is a meeting-house. The free grammar-school, which is well endowed, was founded by Edward VI. There are likewise several charitable institutions in this town. About half a mile east of the town are the ruins of an ancient castle, formerly the occasional residence and still the property of the Bishops of Salisbury. It was a place of great strength. In the time of the civil wars it was, after an obstinate resistance, taken by Cromwell in 1645, and ordered by him to be demolished. This town is a polling-place for the county.

Cerne Abbas, a small town seven miles north of Dorchester, is situated on the river Cerne, and surrounded by hills. It contains the ruins of an ancient abbey, whence its name. On the side of a steep hill, at the east end of the town, there is a gigantic figure cut in chalk 180 feet in length, which has been a subject for discussion among antiquarians. It represents a man holding a club in his right hand, and extending the other.

Beaminster, fifteen miles W.N.W. of Dorchester, has a considerable manufacture of iron and copper goods. There is likewise a factory of sail-cloth. The tower of the church, which is 100 feet in height, is decorated with curious sculptures taken from Scriptural subjects.

Wimborne-Minster, a market-town of great antiquity, twenty-one miles E.N.E. of Dorchester, is supposed to have been a Roman statian, called Vindogladia. It is a clean little town, situated on a dry soil in a healthy vale on the banks of the river Stour and near its confluence with the Alen. A nunnery was established here in the beginning of the eighth century, upon the site of which the handsome minster or collegiate church was afterwards built. Ethelred, brother of King Alfred, was buried in this church*. Here are three meeting-houses, and a grammar-school endowed by Margaret, mother of Henry VII., and increased by Elizabeth. This town has little trade: there is a small woollen-manufactory, and some of the working class are engaged in the knitting of stockings.

Blandford Forum, a neat and well-built town on the Stour, sixteen miles north-east of Dorchester, has two or three times been nearly destroyed by fire, and in the rebuilding has always been improved. It has a manufacture of shirt-buttons, principally carried on by women and children, which, though still considerable, is not so great as it

* See the inscription on his tomb, given by Camden.

once was. Beaminster, Wimborne, and Blandford, are polling-places for the county.

Sturminster-Newton, a market-town sixteen miles N.N.E. of Dorchester, is on both sides of the Stour, over which is a bridge of six arches. The buildings are rather low, and mostly thatched. The church is large and lofty. The traces of a very ancient castle, in the form of the letter D, stand on an eminence near the town.

Cranborne, twenty-six miles and a half north-east of Dorchester, is a very ancient place, which once contained a celebrated Saxon monastery. In 1102 Robert Fitz-Hamon rebuilt the church of Tewkesbury, and removed from Cranborne almost all the monks to that place. From that time the monastery of this town became of no importance, and at the time of the Dissolution it contained only a prior and two monks. The church belonging to the priory, a very ancient building, is now the parish church. The district called Cranborne Chase is in the vicinity of this town. Till recently it was well stocked with deer, which have lately been destroyed, and the Chase disfranchised by act of parliament.

Population of the boroughs and market-towns in Dorsetshire:—

Dorchester . . .	3033
Weymouth . . . }	2529
Melcombe Regis . . }	5126
Bridport	4242
Lyme Regis . . .	2621
Wareham	2325
Poole	6459
Corfe-Castle . . .	1712
Wimborne Minster .	4009
Cranborne . . .	2158
Blandford-Forum .	3109
Shaftesbury . . .	3061
Stalbridge . . .	1773
Sturminster-Newton	1831
Sherborne . . .	4075
Evershot	569
Cerne Abbas . . .	1209
Beaminster . . .	2968
Bere-Regis . . .	1170
Abbotsbury	874

Authorities.

Hutchins's History of Dorsetshire.
General View of the Agriculture of Dorsetshire.

SOMERSETSHIRE,

A western maritime county, is bounded on the south-east by Dorsetshire, on the east by Wiltshire, on the north by Gloucestershire, on the north-west by the Bristol Channel, and on the south and south-west by Devonshire. It is of a very irregular shape. The middle part of the coast forms the extensive bay of Bridgewater, which approaches to a semicircle: the land boundary is also very irregular. The greatest length from east to west is about seventy, and from north to south forty-five miles. The length of sea-coast is about sixty-five miles. The area is 1642 square miles.

The face of Somersetshire is perhaps as much diversified as that of any county in England. It contains every variety, from lofty hills and barren moors, to rich and highly cultivated lowlands, and unimproved, and perhaps unimprovable marshes and fens. From the mouth of the Avon southward to Start Point at the mouth of the Parret, the coast is low, and off it are some long flats. The lowlands have been regained from the sea by embankments. From Start Point it still continues pretty level to Minehead Bay, from which point westward to Devonshire, the section of the Quantock hills upon the coast forms high cliffs. In the north-west is part of the wild district of Exmoor, which extends into Devonshire*. The vale of Taunton, a richly cultivated tract, of about 100 square miles, is bounded on the north by the range of the Quantock hills, which gradually slope eastward towards Bridgewater and the river Parret. To the south of the vale of Taunton are the Blackdown hills, which separate this vale from the lower basin of the Exe that contains the valley of Exeter in Devonshire. From the neighbourhood of Shepton Mallet, on the eastern side of the county, the range of the Mendip hills stretches in a general west direction to the Bristol Channel†. Between the Mendips and the Quantock hills lies an extensive tract of low land, in many parts marshy, stretching from the coast into the interior‡. The tract of the Polden hills lies between Bridgewater and Glastonbury; another small range, called the Whitedown hills (some outlying masses of chalk) is between Chard and Crewkerne;

* See p. 59. † See p. 56. ‡ See p. 56.

and on the confines of Devonshire, between Wellington and Chard, are the Blackdown hills, already mentioned. From the Mendip hills near Wells, a tract of high ground runs in a north-east direction to Bath, forming the western boundary of the basin of the Frome, a branch of the Bristol Avon. From near Bristol, a range of downs extends southward about twelve miles, of which Broadfield Down and Dundry Hill are the highest points.

The rivers of Somersetshire, except the Lower Avon, rise chiefly in the high grounds within the county, and are none of them of any magnitude. The Lower Avon enters from Wiltshire, not far from Bath, where it makes a great bend: from a point between Bath and Bristol, it becomes the boundary between Somersetshire and Gloucestershire. The Parret rises near Crewkerne, and runs a north course to Langport, a little above which it is joined on the right bank by the Ivel, which passes by Ilchester. North of Langport it is joined on the left bank by the Tone, on which Taunton stands. Near the junction of the two rivers a small spot of rising ground marks what was once the Isle of Athelney, where Alfred took shelter during the Danish invasions. From the junction of the Tone the Parret takes a general north-west, and then a north course past Bridgewater to the Bristol Channel at Bridgewater Bay. The whole course of the Parret, measured from the source of the Ivel (which appears to be the longer branch,) is about forty miles. The sources of the Ivel are in Dorsetshire, in the high lands between Cerne Abbas and Sherborne. The Tone, a river nearly as large as the Parret, rises on the south slope of the Quantocks, and runs to Wellington, and thence passes on to Taunton. The Brue rises in the east part of the county near Bruton, passes by Glastonbury by a westerly course, and falls into Bridgewater Bay, near the mouth of the Parret. The Axe rises in the Mendips, near Wells, and falls into the Bristol Channel below Bleadon in Uphill Bay. Several canals give this county a water communication with other parts of the kingdom. In 1802 an act was passed for improving the navigation of the Axe; which is now made navigable as far as the village of Lower Weare, near Axbridge. A lock has been constructed, and the line has been shortened by two cuts, one of which near Loxton is above a mile long. The length of the navigable part of the river is now nine miles.

The Ilchester canal, for which an act was passed in 1795, commences at Ilchester, and terminates in the river Parret at the town of Langport. It is nearly seven miles long, with a very little elevation throughout: its direction is nearly due west for the whole distance. This canal was undertaken for the purpose of introducing coals and other articles of home consumption, and returning corn and other agricultural produce. Part of this navigation is by the river Ivel or Yeo, which is improved and made navigable.

The Glastonbury canal has one end in Bridgewater Bay, Bristol Channel, at the confluence of the Brue and the Parret, and the other at the west side of the town of Glastonbury. Part of it takes the course of the Brue. Its total length is rather more than fourteen miles. By this canal a short communication is made between Glastonbury and the sea. The Act for making this canal was passed in 1827.

The Bridgewater and Taunton canal runs between those two towns in a curved line, inclining to the east.

The Grand Western canal is intended to open a communication between the Exe, near the town of Topsham in Devonshire, and the Tone, near Taunton, in this county; when finished, it will be thirty-five miles in length.

The Somersetshire coal canal commences in the Kennet and Avon canal at Limpley Stoke, near Bradford in Wiltshire, and proceeds in a westerly direction to Poulton, eight miles south-west of Bath; a railway branching off from it in the parish of South Stoke, communicates with the collieries at Welton and Clandown. By means of this canal and railway, coal is forwarded eastward to the Kennet and Avon, and Wilts and Berks canals, by which it is supplied to the respective places on their lines: the city of Bath is also cheaply and plentifully provided.

The soil of this county is extremely various, almost every description being found in different parts: chalk appears only in the eastern districts, and near Crewkerne and Chard. The land is in general highly fertile. On the south the soil of the hills chiefly consists of a thin stratum of black earth, on a bed of sand and gravel. On the Quantock hills there is a thin variable soil, cover-

ing a loose, shelly rock, interspersed with patches of limestone. The Mendip hills are a gravelly loam, on a limestone rock. Broadfield and Leigh Down, near Bristol, have the same character. The Polden hills have a strong soil, covering a bed of clay or marl. Lansdowne Hill, north of Bath, is a freestone grit. Towards the centre of the county, where the principal rivers approach each other, are marshy moors of great extent. Nearly all the lowlands consist of rich alluvial soils, with various proportions of loam, sand, and clay, and of deposits from the sea. These lands, when reclaimed by draining and embankments, are highly productive. In most parts of Somersetshire the climate is mild and salubrious; but on the high grounds the cold is occasionally severe, and a considerable quantity of snow falls on them in the winter. On this account the seasons of seed and crop time vary in different situations, being nearly a month later on the hills than in the low grounds. In some parts of the county the raising of crops of grain is an object of much attention; but the general character of the husbandry of Somersetshire is pastoral. The lowlands are remarkable for their luxuriant herbage, on which oxen, sheep, and hogs, are fattened in large numbers, and together with the produce of the dairy are sent to London and other parts of the kingdom. The cheese in some parts of the county, especially in the Chedder district, is of excellent quality. Geese are reared to a great extent in the marshes in the centre of the county; their feathers are considered of the best quality for stuffing beds. In some parts of the rich and extensive vale of Ilchester, flax and hemp are produced in great abundance. Near Bath and Bristol there is much garden ground, and the whole county abounds with orchards. Timber of excellent quality was formerly grown near Keynsham, a few miles south of Bristol. On the northern side of the Mendip hills are some good coppices; and on the eastern part of this district, some large and productive woods. The town of Frome stands on the verge of the ancient forest of Selwood, which was a woody tract of 20,000 acres, most of which is now cleared, and under arable and pastoral husbandry. The great forest of Exmoor, part of which is comprised in this county, extends about eight miles from north to south, and twelve from east to west; there is scarcely a tree or bush, except in a small tract about the centre of the forest. The Mendip hills contain lead, calamine and coal; the coal forms a considerable field to the north of the Mendips*. Copper, manganese, bole and red ochre, are also found in the Mendip range; but the metallic produce of this district, with the exception of calamine, is inconsiderable, and of lead, we believe, little or none is now produced. There are extensive quarries of limestone on the Quantock hills: paving, tiling and freestone, marl and fuller's earth, are found in different parts of the county.

Somersetshire is divided into forty hundreds, containing seven liberties, and 172 parishes, two cities, and part of another, and thirty-two market-towns. It is politically divided into east and west divisions, each of which sends two members to parliament. East division, hundreds—Bath-Forum, including the city of Bath, Bempstone, Brent with Wrington, Bruton, Catsash, Chew and Chewton, Norton-Ferris, Frome, Glaston-Twelve-Hides, Hampton and Claverton, Hartcliffe with Bedminster, Horethorne, Keynsham, Kilmersdon, Mells and Leigh, Portbury, Wellow, Wells-Forum, Whitestone, Winterstoke. West division, hundreds—Abdick and Bulstone, Andersfield, Carhampton, Cannington, Crewkerne, Curry North, Houndsborough, Huntspill and Puriton, Kingsbury, east and west, Martock, Milverton, Petherton North, Petherton South, Pitney, Somerton, Stone, Taunton and Tauntondean, Tintinhull, Whitley, Williton and Freemanners.

Bristol, a city situated on both sides of the Lower Avon, partly in Gloucestershire, and partly in Somersetshire, is 117 miles west of London. Bristol is a county of itself, and sends two members to parliament. The old borough of Bristol, in the reign of John, was bounded on the south by the then channel of the Avon, and was entirely in Gloucestershire: in the reign of Henry III., the parishes of St. Thomas, Redcliff and Temple, on the south or Somersetshire side of the river, were added to the borough; and in the 47th of Edward III., Bristol was made a distinct county. Bristol was made a city by Henry VIII. Bristol city comprises fifteen parishes, besides the castle pre-

* See p. 57.

cinct, which is extra-parochial, and parts of the parishes of St. James, St. Paul, St. Philip and Jacob, Clifton and Bedminster. By the Boundary Act the parliamentary borough comprises, in addition to the city parishes, the out-parishes of St. James, St. Paul, St. Philip and Jacob, the parish of Clifton, and parts of the parishes of Westbury and Bedminster. Bristol is a very ancient place, the origin of which some writers, without any proof, place several centuries before the Christian æra. It was no doubt a Roman station, and was first fortified by the Romans. We find it enumerated among the fortified cities of Britain about A.D. 495, and again in 620. The castle, which appears to have been built before the Norman conquest, was enlarged and strengthened in the reign of Henry I.: it was demolished in the seventeenth century by order of the parliament. As early as the reign of Henry II., Bristol was a rich and flourishing place: and from that date it has continued to be one of the most important commercial and manufacturing towns in the kingdom. A century ago it ranked next to London in trade; but now, owing to various causes, its foreign trade is much below that of Liverpool. Still Bristol is a place of great commercial importance, which from its favourable situation it must always maintain. The Avon, which is here joined on the north by the Frome, is navigable for ships of great burden from its outlet in the wide æstuary of the Severn to Bristol, a distance of ten miles by water. The river up to the town is very rapid, and as the tide rises about forty feet, it is capable of floating vessels of 1000 tons. At low water the bed of the river is nearly dry. The river is crossed by a bridge originally constructed five hundred years ago, and rebuilt about the middle of the last century: it consists of three wide and lofty arches, with a neat stone balustrade seven feet high. It would be impossible within our limits to give a minute account of this city, which is computed to cover an area of 1500 acres, over which its buildings are irregularly dispersed in about six hundred streets and lanes. In the older parts of the town the houses are crowded together in narrow streets, and are mostly built of wood and plaster, many of them being of the fifteenth century, and some in good preservation; but the more modern buildings, especially those towards the environs and outskirts of the town, are of brick and stone, and arranged in wide streets, or in large and regular squares. Most of the streets are well paved and lighted. The common sewers which run under the town render the whole city remarkably clean. It is said that carts were formerly prohibited in the streets lest the arches of the sewers made underground should be injured, and on this account everything was conveyed by sledges, which caused considerable annoyance to pedestrians. At a short distance from the city is some high ground, the springs of which furnish an excellent supply of water, both from pumps and conduits Bristol was made an episcopal see* by Henry VIII., when the magnificent and extensive abbey of St. Augustine, founded in the twelfth century, after being nearly two-thirds demolished, was converted into a cathedral. The general appearance of the cathedral is somewhat heavy. In its present form its extreme length is 203, and extreme breadth 127 feet: it has a central quadrangular tower, 133 feet high, ornamented with four pinnacles. The Norman gateway of the abbey is one of the finest specimens of that style of building in the kingdom. There are in Bristol twenty-three churches belonging to the Establishment, and thirty-six meeting-houses, besides a synagogue. Many of the churches are fine specimens of ecclesiastical architecture: but that of St. Mary's, in the parish of Redcliff, is more particularly distinguished for its grandeur and elegance of style.†

Among the public commercial buildings are—1st. The Exchange, finished in 1743, which is 110 feet in front, and 148 deep; the interior area in which the merchants sometimes assemble is capable of containing 1400 persons; 2nd. The Commercial Rooms, erected in 1809, which consist of reading rooms, and rooms in which the merchants generally assemble: the entrance to the building is under an Ionic portico, surmounted by a pediment, on which are three statues representing the City of Bristol supported by Commerce and Navigation; 3rd. The Merchants' Hall: 4th. The Council House; 5th. The Guildhall; 6th. The Custom

* The Sees of Bristol and Gloucester are now united by 6 and 7 Wm. IV. c. 77.

† See Britton's History and Account of Bristol Cathedral, and of Redcliff Church, Bristol.

House, which was destroyed in the riots of 1831: a new building is now (1837) nearly completed. Besides these, there are several elegant halls belonging to the city companies, which are thirteen in number. The Theatre, Assembly Rooms, Philosophical Institution, and City Library, must be enumerated among the public buildings. Bristol contains numerous establishments for the purposes of instruction and benevolence. There are several free-schools well endowed. In the hospital founded by Queen Elizabeth, 100 boys are educated, and on leaving receive a gratuity towards their apprenticeship. In Colston's Hospital 100 boys are maintained and instructed for seven years, and then apprenticed to some trade. There are several free grammar-schools, and a prodigious number of charities of all descriptions, which we find to be always the case in the old ecclesiastical cities of England*. An institution called the Bristol College, for the education of all classes without religious distinction, has now been open for some years, and promises to be very useful to the city and the west part of England. There are many large almshouses, and numerous well-conducted and extensive charities liberally supported. The principal are—a spacious Infirmary, a Magdalen, a Blind Asylum, a Friend and Samaritan Society, and more recently established, the "Prudent Man's Friend," with which is connected a Savings Bank.

The manufactories of Bristol have for some time been on the decline, but those of brass, sugar, glass, floor-cloth, and earthenware, &c., are still considerable. It is said that Bristol was the first place in Great Britain in which brass was wrought; and the brass-works connected with Bristol are still said to be the largest in England. The calamine used in the manufacture is brought from Dorsetshire and from the Mendip hills. In this city the process of making shot by dropping melted lead from a considerable height into water was invented. The earthenware is of the same kind as that manufactured in Staffordshire. The plentiful supply of fuel, water, and provisions in the neighbourhood, gives Bristol great advantages as a site for manufacturing industry, while the easy transit of goods from this port to all parts of the kingdom secures a favourable market. Bristol has long been engaged in a very extensive foreign trade, though this also has been on the decline. It is more advantageously situated than any other great port, either of England or Scotland, for trading with the West Indies and with Ireland, with which country the trade at present is very considerable. The decline in the industry and commerce of Bristol is generally attributed to the heavy local taxation; and as the removal of local duties on the Irish and coasting trade has been attended with beneficial effects, it seems probable that further changes might restore the trade of Bristol. Under the Municipal Act, it is not unlikely that the town may increase in prosperity: by this Act Bristol is divided into ten wards, with sixteen aldermen, and forty-eight councillors.

The Avon from this city to Bath flows through a beautiful valley. The river was made navigable between these two places at the beginning of the last century; and at the beginning of the present century, extensive works were constructed for the improvement of the harbour at Bristol. An artificial basin of very large dimensions was made in the bed of the Avon (a new channel having been cut for the river,) and another communicating with it was formed in the Frome just above its junction with the Avon: the whole comprehends a space of nearly forty acres, in which merchant ships of large size may constantly lie afloat. There are three locks in these basins; the first leads to an entrance dock, which may be let dry at pleasure; another allows of one vessel going out, while a second is coming into the entrance dock; and the third lock admits the vessels into the long basin of the Avon and the Frome. Across the meadows south-east of the town is a canal, each end of which communicating with the river, gives a more direct course to the navigation of the Avon, which is here very tortuous*. In 1831 a dreadful riot occurred at Bristol, in which houses and property to the amount of 200,000*l.* were destroyed.

The city of Bath, the capital of the county, is situated in a valley in the north-east part of the county, 107 miles

* The list of these charities and their property, in the Digest of the Charity Commissioners, fills nearly eighteen folio pages.

* The history and description of such a place as Bristol require a volume. For further information the reader is referred to Seyer's Bristol, the Reports of the Corporation Commissioners, of the Charity Commissioners, and to the article 'Bristol,' in the Penny Cyclopædia.

west of London, and eleven miles east by south of Bristol. It is shut in on the north-west and south by high ground, and is nearly surrounded by the Avon, except on the north side. Bath sends two members to parliament: the parliamentary borough was considerably enlarged by the Boundary Act. This city owes its origin and importance to its hot springs, which the Romans were well acquainted with during their occupation of this island. The city was then called Aquæ Solis, and baths were erected on a magnificent scale, some remains of which, discovered some years ago, furnished a good specimen of the extent, beauty, and luxurious accommodations of the Roman baths. In front of the baths was a temple of Minerva, built in a good style of architecture.

This city, though known by different names at different epochs, has always had an appellation derived from these springs. The Romans, as just observed, called it Aquæ Solis or Fontes Calidi; the Britons, Caer Badun; and the Saxons, Hot Bathun and Achamannum, or city of the sick. There are at present five establishments, with numerous private baths for the accommodation of invalids, besides the public baths, which are four in number—the King's Bath and the Queen's Bath, which are connected with each other; the Hot Bath and the Cross Bath. All the baths are vested in the corporation, except the Abbey Baths, which belong to the Earl of Manvers, and which are supplied from the same source as the Great Pump Room. The King's Bath at the southern side of the Pump Room, is 65 feet 10 inches by 40 feet 10 inches; the Queen's Bath is a square of 25 feet: the daily quantity of water discharged into these basins is 184,320 gallons. The temperature of the springs varies from 109° to 117° of Faht.; their use is considered efficacious in many disorders. The present Great Pump Room was built on the site of the old one in 1796; it is 85 feet in length by 46 feet wide, and 34 feet high, lighted by a double row of windows, and has a music gallery at the end: this is the fashionable promenade of visiters. Most of the streets and houses of Bath are good, and some are handsome. At the west of the town elegant crescents rise one above another in the form of an amphitheatre, and are overtopped by the surrounding high lands. All the buildings are of a fine freestone, which is quarried in the neighbourhood. Bath, united with Wells, forms a bishop's see. The Abbey-church, which is on the east of the town, is said to be one of the finest specimens of ecclesiastical Gothic architecture in England*: it was founded in the latter end of the fifteenth century. It has lately undergone considerable repairs and alterations. Besides three churches, there are seven chapels and places of worship. Among the public buildings are the guildhall, the market-place, the theatre, and the old and new assembly rooms. There are several institutions for the instruction of the poor, and many well-conducted charities. The principal of these is the general hospital, established for the relief of all the sick in the United Kingdom, whose complaints are of a nature to receive benefit from the use of the hot springs; the inhabitants of Bath are excluded from this charity, since it is supposed they may obtain the water at a cheap rate at their own houses. There is a free grammar-school founded by Edward VI., four hospitals, and other charities. Bath has no trade or manufacture: it derives its chief support from residents of independent fortune, and from the strangers who visit it for health or pleasure.

Wells, a city, nineteen miles south-west of Bath, at the southern base of the Mendip hills, which shelter it from the north, is surrounded on every other side by fertile meadow land. The country around is picturesque and diversified; several insulated hills rise from the low grounds, some covered with grass or trees, others cultivated to their summit, and some terminating in bare crags. The town is small, but the streets are clean and regular, and the buildings for the most part good. Its noble cathedral was erected in the early part of the thirteenth century. The extreme exterior length and breadth of this venerable building are respectively 415 and 155 feet. From the intersection of the transepts rises a large quadrangular tower, 178 feet high†. On the south side of the cathedral is the cloister. Two gates with towers lead into the close, which contains twenty-two houses and a chapel at the upper end, with the vicar's dwelling and the deanery. On the south of the cathedral is the bishop's

* See Britton's History, &c., of Bath Abbey-church.

† See Britton's History, &c., of the Cathedral of Wells.

palace, a spacious old building, surrounded by walls, inclosing a space of seven acres. A deep fosse surrounds the whole. Wells was made a bishop's see in the reign of Edward the Elder. Besides the cathedral, there is a church remarkable for its lofty tower; near which are two almshouses, and an hospital endowed for thirty poor men and women. Over this hospital is the town-hall, situated in the market-place. On the east side of the city is another market-place, which is open, and contains the conduit for supplying the inhabitants with water. The water is conveyed to this conduit by pipes from St. Andrew's Well, between the cathedral and the bishop's palace. This copious spring sends out a stream, which, after filling the moat, flows through the south-west part of the town. It is from this abundant source that the city of Wells takes its name: and it appears probable that it is the Roman site called Ad Aquas, or At-Waters. The city contains several charities for education and the relief of the poor. The only manufacture seems to be one large stocking manufactory: there is a paper-mill at some little distance to the north-west of the city. The corn market has declined, but the cheese market is still the greatest in the west of England. About two miles from Wells, in the same direction, is a curious cavern in the rocks under the Mendip hills, called Wookey Hole. It is entered by a small opening at the foot of a perpendicular rock, nearly 200 feet in height. This subterraneous place, which extends 600 feet in length, is divided into several compartments, which in some parts are small, narrow, and rugged, and in other parts open into lofty and spacious apartments. Wells is represented by two members in parliament, and the parliamentary borough is somewhat enlarged.

Frome, a market-town, ten miles south of Bath, stands on the declivity of a hill on the skirts of the ancient Forest of Selwood. On the eastern side of the town the river Frome takes a winding course, and is crossed by a bridge of five arches. The town is irregularly built, and most of its streets narrow and ill paved: within the last few years, however, many improvements have been made, a handsome street has been formed, and a new market-house erected. The town is now lighted with gas. There are three churches, besides several places of worship for dissenters; a free grammar-school, charity and Sunday schools, and several other charitable institutions. Frome contains several establishments on a large scale for the manufacture of woollen cloths. By the Reform Act Frome was made a parliamentary borough, and now sends a member to parliament.

Bruton, a small town near the source of the Brue, nineteen miles S.S.W. of Bath, contains a fine church. The market-house is well built, and the market-place has an ancient hexagonal cross, supported by pillars. There is a considerable manufacture of stockings carried on here. The country in the neighbourhood is agreeable: "the vales are meadows; the declivities orchards; and the eminences sheep-walks."

Wincanton, a market-town near one of the sources of the Stour, situated on the slope of a hill twenty-four miles south of Bath, is a place of great antiquity: it now contains one church, and a neat market-house. There is a considerable trade of ticks and dowlas, serges and stockings; and also a large trade in cheese, great quantities of which are brought here from the neighbouring towns, and disposed of for the London market.

The borough of Glastonbury is on the great road from Wells to Exeter, and twenty-three miles south-west of Bath. It stands on a low marshy peninsula formed by the waters of the Brue, formerly called the Isle of Avalon. It contains the ruins of an abbey, for a long time one of the first in Europe for wealth and magnificence. The revenues belonging to this abbey were immense, and its abbots lived in a style of regal splendour. At the Dissolution the property of the monastery fell into the hands of Henry VIII., and the robbery was, in the present case, rendered still more atrocious by being marked with more than usual cruelty. Tradition assigns the foundation of a church or monastery here to the earliest ages of Christianity. Whatever was its origin, it received great accessions of wealth under the Saxon kings, and finally became an establishment of Benedictines. The whole site included within the abbey precincts is said to have been nearly sixty acres. Most of the splendid pile of buildings is demolished, but there still remain some fine specimens of old English ecclesiastical architecture. On the top of a steep hill to the north-east of the abbey stands

the tor or tower of St. Michael. The town contains two parish churches. The old cross in the market-place is one of the handsomest specimens of this kind of building. Manufactures of silk and of stockings are carried on in this town. A canal, by which timber, slates, tiles and coals are conveyed, has been recently opened between Glastonbury and Highbridge at the mouth of the Brue.

Shepton Mallet, a market-town, sixteen miles S.S.W. of Bath, is situated in a low valley, watered by various streams. It consists of several streets, which are mostly narrow and dirty. The church is a spacious edifice in the pointed style. There are likewise three places of worship for dissenters. The market-cross consists of five arches, supported by pentagonal columns, having an inscription purporting that it was erected in 1500, "by Walter Bucklord, and Agnes, his wyff." Manufactures of woollen cloth and knit stockings have long been carried on in this town. Shepton Mallet has a free-school, and various other charities.

Chedder, a village, twenty miles W.S.W. of Bath, and seven miles north-west of Wells, on the south-west side of the Mendip hills, contains a curious old market-cross. The surrounding district produces the cheese to which this place gives name.

Axbridge, twenty-three miles north-east of Taunton, is a small market-town and ancient borough, which sent members to parliament during the reigns of the first three Edwards, but discontinued on the plea of poverty. The town principally consists of one street, about half a mile in length, running from east to west. The church, which stands on an elevation near the market-house, is a spacious, Gothic structure, built in the form of a cross, having on the west end a handsome tower. An ancient bridge over the Axe in this parish gives name to the place.

Keynsham, a market-town, on the river Avon at its confluence with the small river Chew, and nearly midway between Bath and Bristol, chiefly consists of one long street: over both rivers there are stone bridges. There are a church, a meeting-house, and a charity school. The inhabitants are principally employed in matting. Woad is raised in great quantities in the vicinity. The Avon here yields, during the spring months, a most abundant supply of eels. A few miles south of Keynsham, on the Chew, is the Druidical circle of Stanton Drew, consisting of stones five or six feet high: the dimensions of the circle are greater than that of Stonehenge, but there is no appearance of a ditch.

Taunton, a borough, and the election town of the western division of the county, is situated on the river Thone or Tone, about 140 miles west by south of London. It sends two members to parliament: the parliamentary borough is nearly co-extensive with the municipal borough, which exactly coincides with the parish. Taunton is a large, respectable town, consisting of four principal streets, with various smaller streets. The main streets are spacious, well paved, and lighted with gas. The houses are well built, and have mostly small gardens behind them, an arrangement which contributes to the airiness and salubrity of the town. The country around abounds in pleasant villages and orchards. Here are two churches, besides several meeting-houses. The market-house, which stands in the centre of the town, is a large, handsome building, with rooms devoted to various purposes. The town-hall occupies the lower part; on each side of the house is a large arcade, and in front there is a spacious area, inclosed by posts and chains. Besides the free grammar-school, founded in the reign of Henry VII., there are numerous charities and other public institutions. Part of an ancient castle still remains, originally built about A.D. 700. Its great hall is now the assize-hall, which was repaired and fitted up at the latter end of the last century. The bridewell is in the adjoining village of Wilton. The silk factories, till within the last year or two, did a good deal of business; but at present they are somewhat declining. A considerable trade is carried on with Bridgewater by means of the canal.

Bridgewater, a borough on the river Parret, is about six miles, direct distance, from its mouth. At springs, the tide rises here to the height of six fathoms, and flows with so large a head (or bore) as often to endanger smaller craft. Vessels of 200 tons burden can come up to the quay. The port has of late years received considerable improvements, and others upon a large scale are in contemplation. The houses in general are irregularly built, but the streets are wide and well paved. There is a stone bridge over the river. Be-

sides the parish church, there are several places of public worship for dissenters. A short distance from the church is the grammar-school; besides which Bridgewater has another free-school, (Morgan's,) and various charities. The town-hall is a good, substantial building. A high cross has a cistern over it, to which water is conveyed by an engine from a neighbouring rivulet, and thence distributed to the different streets. The Borough gaol is a convenient building, with separate parts for the male and female prisoners. The town has a good deal of foreign trade, which is still increasing. A particular description of bricks is made at Bridgewater, from a deposit left by the ebb tide. This material is found in the bed of the river; for a space extending about a mile in each direction from the centre of the town, within which distance various brick grounds have been formed. Bridgewater was either a Roman station, or in the neighbourhood of one, and some have conjectured it to be Uxella. It appears from Camden that the town does not take its name from the *bridge* and the *water*: for it is called in old charters Burgh-Walter, having been given to Walter de Doway by the Conqueror. In the neighbourhood of Bridgewater, to the east, is Sedgemoor, where the Duke of Monmouth was defeated.

Somerton, a market-town, nearly in the centre of the county on a branch of the Parret, is twenty-eight miles south-west of Bath. It is a place of great antiquity, but now of little note. It consists principally of five streets, has an ancient church, a free-school, and a well endowed almshouse. A hall for holding the petty sessions, and also one of the gaols of the county, are in this town. It is conjectured that Somerton gave name to the county.

Langport, a market-town, situated near the confluence of the rivers Parret and Ivel, is about thirty-two miles south-west of Bath. It is said to have once sent members to parliament. At present it consists principally of two streets, has one church, and a free-school. The trade of Langport consists in its water communication with Bridgewater, by which it imports coal, timber, iron, &c., and in a general freight trade from Bristol, London, and Wales.

Ilchester, a borough, about thirty miles S.S.W. of Bath, is now a poor, declining place, though at the time of the Norman conquest, and still later, it was a place of some importance. Ilchester is the Ischalis of Ptolemy, and was one of the principal Roman stations in these parts. Their road called the Fossway, which crossed the island from Lincolnshire to the coast of Devonshire, passed through this place from north-east to south-west, and the principal street is still on this line. Vestiges of the double Roman wall which surrounds the town, and other works, are still visible. The old name of the place is Ivelchester, which indicates its position on the Ivel. There were formerly six churches, but now only one remains. Ilchester contains a commodious county court house, and the county gaol, which was built and arranged on Howard's plan. At this town, Wells, Taunton, and Bridgewater, the county business is transacted. Ilchester is situated on the south bank of the river Ivel, which is not navigable here. Since the borough was disfranchised by the Reform Act, the town has declined; there are now no manufactures, and the poor are on the increase.

Yeovil, a borough, is thirty-three miles S.S.W. of Bath. Some of the principal streets are wide. The houses are mostly well built of free-stone. Within the last twenty years this town has considerably improved. The church is a fine building, besides which there are five meeting-houses. There is a well endowed free-school, and several charitable institutions. The inhabitants are chiefly employed in the making of gloves. About 70,000*l.* are said to be paid annually in wages to the glovemakers.

Crewkerne, situated in a pleasant valley in the south angle of the county, forty miles S.S.W. of Bath, is old and irregularly built, and consists of five principal streets. It has a fine church. Manufactures of sail-cloth, dowlas and stockings, are carried on here.

Chard, a borough on the southern borders of the county, seven miles west of Crewkerne, principally consists of two streets intersecting each other: several small streams run through the town. The church, town-hall, and market-house, are all very old buildings. The lace manufacture has been introduced since 1821, and some of the factories are considerable: there are also some cloth factories. Owing to this stimulus, the population of the borough part increased from 3106, in 1821, to 5141, in 1831.

Ilminster, a market-town, forty miles south-west of Bath, is situated at the crossing of the roads from London to Taunton, and from Bristol to Exeter. It was formerly a manufacturing town of considerable importance, and many narrow cloths are still made here. The town consists of two streets, one of which is nearly a mile in length. Many of the houses are good buildings of stone or brick, but the greater number are thatched. It contains a fine church, a richly endowed free-school, and a newly-erected market-house.

Wellington is a large and populous market-town, near the borders of Devonshire, seven miles south-west of Taunton. The principal street is very wide; and the church is a handsome structure. The inhabitants manufacture serges, druggets, and earthenware.

Milverton, an ancient market-town, is situated in a well-cultivated, rich woody country, seven miles west of Taunton: it consists chiefly of three irregular streets, with the church, which is a large building standing on an eminence in the centre. An extensive manufacture of flannel is carried on here.

Wiveliscombe, a market-town, ten miles west by north of Taunton, is situated in a valley surrounded by finely wooded hills. It consists of seven streets, irregularly built. Besides the church, there are several meeting-houses. It has manufactures of various woollen goods, which are not quite so flourishing as they were twenty or thirty years back. On an eminence about a mile from the town are the remains of an ancient encampment, still called The Castle.

Dunster, nineteen miles and a half north-west of Taunton, stands on the margin of a fertile vale near the Bristol Channel. Its name is derived from *dune*, a hill, and *torre*, a tower. A castle was built hereafter the Conquest, on the site of one which had been demolished. It suffered much during the civil wars of the seventeenth century. The church, erected by Henry VII., is considered one of the largest parish churches in England.

Dulverton, on the east side of the river Exe, eighteen miles west of Taunton, consists of two streets: the chief manufactures are coarse woollen cloths and blankets.

Minehead, on the coast, is twenty-two miles west by north of Bridgewater: part of the town stands under a lofty hill, termed the Headland. Minehead was formerly a place of considerable trade, but it is now of little note. Till the Reform Act it sent a member to parliament. Milborne Port, two miles north-east of Sherborne, is likewise a disfranchised parliamentary borough.

Population of the cities and market-towns of Somersetshire:—

Bristol	117,016
Bath	38,063
Frome	12,240
Wells	6649
Axbridge	998
Shepton Mallet	5330
Glastonbury	2984
Bridgewater	7807
Bruton	2223
Castle Cary	1794
Wincanton	2123
Somerton	1786
Langport	1245
Ilchester	1095
Milborne Port	2072
Yeovil	5921
South Petherton	2294
North Petherton*	3566
Ilminster	2957
Crewkerne	3789
Taunton	11,139
Wellington	4762
Milverton	2233
Wiveliscombe	3047
Dulverton	1285
Minehead	1481
Dunster	983
Watchet †	
North Curry	1833
Keynsham	2142
Chard	...

Authorities.

Collinson's History of Somersetshire.

Billingsley's General View of the Agriculture of Somersetshire.

Description of the City and Suburbs of Bristol.

Warner's History of Bath.

Historical Description of the Abbey-church, Bath.

DEVONSHIRE

Is bounded on the north-east by Somersetshire, on the south-east and south by the English Channel, on the

* This is a very large parish, containing several villages, but no market-town.

† Watchet is in the parish of St. Decuman, which contains 2120 inhabitants.

west by Cornwall, and on the north-west and north by the Bristol Channel. It is an irregular, quadrangular figure: two of its opposite sides are washed by the sea, and the other two have inland boundaries. The extreme dimensions from east to west are about 68 miles, and from north to south about 71 miles: its area is about 2579 square miles. The north coast, which is about 55 miles long (following only the principal indentations), contains one considerable bay, called Bideford, or Barnstaple Bay, lying between Baggy Point and Hartland Point. The southern coast, which is about 100 miles long, contains the considerable æstuaries of the Exe and the Teign, Torbay, Dartmouth, Salcombe Harbour between Prawle Point and Bolt Head, Bigbury Bay, into which the Avon and the Erme fall, the æstuary of the Yealm, and Plymouth Sound, which lies between Devonshire and Cornwall. The surface of this county is exceedingly varied, but the high ground hardly assumes a mountainous character. It contains a part of Exmoor* on the north of the county adjoining the western angle of Somersetshire, and the whole of Dartmoor†, which is a wild and in most parts a barren tract, occupying a large portion of the western district, and extending from the vale of the Teign nearly to the banks of the Tamar. The tract of high land between the valley of the Exe and the Axe is described, p. 57. A considerable portion, however, of the surface of this county consists of fine valleys. The rich valley of the Dart, which takes its name from the river, which drains it, together with the part near Torbay, and the whole tract lying between the rivers Dart and Erme, extending from the sea on the south coast towards the Dartmoor range, distinguished as the South Hams district, is noted for its fertility, and is frequently termed the garden of Devonshire. This tract is diversified by bold undulations and beautiful valleys, which form in many parts most picturesque scenery; the vale of Exeter, which is of considerable extent, is also fertile.

The principal rivers of Devonshire are the Exe‡, the Tamar, the Torridge, the Teign, the Taw, and the Dart. The Exe rises in Somersetshire, and enters Devonshire near Dulverton. At Bampton it enters into a richly wooded valley. From Exeter the Exe runs through fertile meadow land to Topsham, where the æstuary commences. Its length from Topsham, till it falls into the sea at Exmouth, is nearly eight miles, and it is in some places a mile and a half in width. In the reign of Henry VIII. attempts were made to improve the navigation of the Exe between Topsham and Exeter, a distance of three miles and a quarter. For this purpose a canal above three miles in length, running parallel to the river, was made by the Corporation of Exeter. But this work was very imperfect and inefficient, being subject to the ebb and flow of the river, which at the entrance of this cut rises thirteen feet at spring tides. The cut has recently been extended lower down, to a place called the Turf, into a deeper part of the tideway. The Act authorizing this alteration was passed in 1829. The canal is now five miles in length, with a basin and entrance tide lock at the Turf, and another basin in the city, where there is a wharf 500 feet in length. The depth of the canal is 15 feet. The cost of these alterations was estimated at 10,000*l.*, the whole of which sum was to be advanced by the Corporation of Exeter. The Tamar rises in Cornwall, and forms, for a large part of its course, the boundary between the two counties; from the neighbourhood of Launceston to the junction with the sea of the wide æstuary, called Plymouth Sound, it entirely separates Devonshire and Cornwall. The Dart rises on Dartmoor, at Okement Hill, and taking a winding south-east course to Totness, gradually widens into an æstuary, and falls into the sea at Dartmouth. Its whole course is about thirty-five miles. The Teign rises in the most elevated district of Dartmoor, near the source of the Dart*, and taking a course, first to the east and then to the south, passes by Chudleigh and on to Newton Bushel, below which it widens into an æstuary, and falls into the sea at Teignmouth. Its course is perhaps a few miles less than that of the Dart. One branch of the Torridge rises in the north-west angle of the county near the source of the Tamar, and takes a very circuitous course, changing its direction from south-east to east and north-west and north: after passing

* See p. 59. † See p. 58. ‡ See p. 59.

* See p. 60.

by Torrington and Bideford, it forms with the Taw a considerable æstuary, and falls into Barnstaple Bay. In the neighbourhood of Hatherleigh the Torridge is joined by the other main branch, which comes from Dartmoor (see p. 60). The course of the Torridge is about forty-five miles. The Taw rises in Dartmoor, and taking a northerly course passes Chumleigh, where it is joined, on the right, by the Little Dart. It then flows in a north-west direction, and after receiving the Moule (which comes past South Molton), it passes Barnstaple, and joins the æstuary of the Torridge. The course of the Taw is perhaps about fifty miles. Besides these streams, Devonshire contains a considerable number of smaller rivers; the chief of which are the Tavy (which enters the æstuary of the Tamar); the Plym (which enters Plymouth Sound); the Yealm, the Erme, and the Avon, all of which come from Dartmoor. The Otter, the Sid, and the Axe belong to the district described in p. 57. There are mineral springs of various qualities at Tavistock, Cleave, Lamerton, Bampton, and Lifton. All the rivers abound with fish, which is also very plentiful on the coast. The salmon and trout caught in the larger rivers form a profitable article of trade to the inhabitants. The plaice, sole, and Johndoree of Devonshire, are considered of superior quality. The *hake* is caught abundantly throughout the year on the southern coast, and is an important article of food for the poorer classes. The herring and mackerel fisheries are very extensively carried on. There are extensive oyster-beds at Starcross, Lympstone-on-the-Exe, Dettesham-on-Dart, and several others; a few years back large oyster-beds were discovered in Torbay.

The canals in this county are of little importance. The Bude canal, for making which an Act of Parliament was obtained in 1819, commences in Bude Harbour, on the north-west coast of Cornwall, and terminates at Thornbury in Devonshire. Its course is very circuitous, first being cut in a direction nearly south along the western bank of the little river Bude to Hele Bridge: it then turns abruptly to the north-east and east to Red Post, where a branch proceeds south-east along the west bank of the Tamar to Durxton Bridge, about three miles north of the town of Launceston. Another branch proceeds to Moreton Mill from the main canal at Burmsdon, which is three miles beyond Red Post; this branch is not quite one mile and a half; a feeder two miles and a half long proceeds from it to a reservoir on Langford Moor. At Veala, a little more than one mile from Burmsdon, is the Vorworthy branch, nearly four miles in length. The length of the canal from Bude Haven to Thornbury is nearly twenty-one miles and a half; and that part from the Haven to Red Post is about five miles and three-quarters. There are three inclined planes, and a tunnel of considerable length. One of the chief objects of this canal is to facilitate the introduction of Welsh coal.

The Tavistock canal commences in the tideway of the Tamar, and terminates at Tavistock. It is about four miles long, and at Morwelham Down passes through a tunnel nearly 2640 yards long, and about 460 feet beneath the highest point of the land above it. This canal is 16 feet wide and 4 deep, and has a rise of 256 feet. There is a branch of two miles to Mill Hill slate quarries. The Tavistock canal was projected in 1803, and finished in 1817, and is used for conveying slate, copper, ore, and other minerals from, and coals, lime, &c., to, this district. The Stover canal is cut from the Teign to Bovey Heathfield. Potters' and pipeclay are sent down it, and culm and coal brought up.

The Plymouth and Dartmoor railway commences in the parish of Lydford in Dartmoor, near the prison, originally erected for the reception of prisoners of war. It runs in a very circuitous course towards the south to Crabtree, where it crosses the Plymouth and Exeter high road: thence it is continued to the Sound at Sutton Pool, a short distance south of Plymouth. This railway was executed under Acts of Parliament passed in 1819, and the two following years; it is about twenty-five miles and a half, and has proved of great use for the transit of goods to the district through which it passes. A railway extends from the Hey Tor quarries to the Stover canal; it is about eight miles long, and formed of granite blocks.

A railway for the conveyance of passengers, as well as goods, between Bristol and Exeter, and on to Plymouth, has been projected. This work has received the sanction of Parliament

(1836) so far as it relates to Bristol and Exeter: the line between those cities is to be seventy-five miles and a half in length, passing by Axbridge, Bridgewater, Taunton, &c.

Another railway is in contemplation between Exeter and Basingstoke, at which latter place it is to communicate with the Southampton railway; but no Act has yet passed to authorize this undertaking.

Devonshire is extremely rich in mineral products. Granite occupies the central and most elevated portion of the county, including the whole forest of Dartmoor and many large parishes immediately around it. This stone is quarried to a considerable extent, and is largely exported. Several thousand tons are annually sent to London from the Hey Tor quarries, which are situated at the foot of the rocks, whence they derive their name. Blocks much prized by architects for their size, durability, and fineness of texture are produced from these works, and are conveyed by means of the railway already described to the Stover canal, and thence to the new wharf at Teignmouth, where they are shipped. Slate occupies an extensive surface on the northern, southern, and eastern parts of the county. A north-eastern range, bounded by the granite on one side and by the transition limestone on the west, occupies nearly the whole of Doddiscombesleigh and Christow, and may be traced through the eastern parts of Hennock, Bovey Tracy, Ilsington, and Ashburton, to and beyond the Dart. A second and more easterly range, commencing in the transition lime, occupies nearly the whole of West Ogwell and Woodland, and a considerable portion of Highweek, East Ogwell, and Denbury; another south-easterly range has a part of Marldon and Berry Pomeroy as its inland boundary, and occupies a large portion of Churston Ferrers and Kingswear. There are several large quarries of this slate, which is used for roofing; the principal are at Staverton and Nethway.

Transition limestone occurs in several detached parts of the county, but principally in the south, between Torbay and Plymouth, the whole coast between those points being composed of this rock; it is likewise found higher up to the north, as far west as Chudleigh parish. Limestone is quarried and burnt to a great extent for the purposes of manure, especially at Naldon, and thence in different parts as far as the Dart; and from the Babbiscombe quarries (a mile or two from Torquay) vessels are constantly employed in conveying the limestone for the supply of the kilns along the banks of the Exe. This limestone is also adapted to building and ornamental purposes. Beautifully veined marble is worked in different parts, and is used for tablets, pillars, mantel-pieces, &c. The greater part of the south-east and south coast is marble. The cliffs near St. Mary Church, on the north side of Torbay, are of superior beauty to any in Devonshire. In a valley below the cliff, about 400 yards wide, there are loose unconnected rocks of this marble. The cliff at Petitoe, on the edge of the sea, is likewise celebrated for its marble formation. "The blocks here are tumbled from the outer edge of the cliff (the whole of which appears in a loose disjointed state), of many tons weight, and slates of a large scantlage, and pillars of fourteen or fifteen feet in length, are often worked from it."—(*Teignmouth, &c. Guide*, p. 2.) In the parish of Ipplepen excellent marble is also quarried for ornamental purposes.

Red sandstone occupies what is usually termed the Dist district, immediately around Exeter; stretching thence through the valley of the Exe, round the base of Naldon on one side, it occupies a considerable tract along the coast as far as Torbay; and on the other, winds round the base of Woodbury and Peak Hills, forming the coast-line of cliffs to and beyond Sidmouth. This stone is in some places sufficiently hard to serve for a very durable building material.

Coal of a peculiar nature, distinguished as lignite, or wood-coal, is obtained from the extensive flat called Bovey Heathfield, which commences at the base of the granite-hills, in the parish of South Bovey, 13 miles south-west of Exeter, and is a large natural basin of irregular form, about seven or eight miles in circumference. The strata of coal are found under alternating beds of clay and gravel; the coal strata alternate with those of clay; their perpendicular depth, including the beds of clay with which they are intermixed, is about seventy feet. Near the pottery in the parish of Bovey, the coal approaches to within five or six feet of the

surface: at this spot there are six beds of various thickness, the lowest of which is sixteen feet thick. This combustible differs from *black* coal in several of its constituents, and geologists have formed various speculations as to its probable origin. It appears to be imperfectly carbonized wood, being but partially and imperfectly converted into coal. The chief use to which the Bovey coal is applied is as fuel in the manufacture of an inferior description of earthenware at the potteries on Bovey Heath. The poorer class in the neighbourhood likewise use it as fuel; but it is of difficult and imperfect combustion, and emits a fetid gas, which prevents its extensive application for domestic purposes.

The beds of clay superincumbent on the coal are worked for potter's clay. That which is the purest commences on the left bank of the Teign, nearly opposite Newton, extending towards the north-west to the base of the granite hills between Highton and Bovey Tracey. It is worked in square open pits to various depths of from 30 to 80 feet; the clay is cut in small cubic junks, technically called clay-balls (each about 30 lbs. weight), many thousand tons of which are annually shipped from Teignmouth to the Staffordshire and other potteries. A bed of pipeclay so impregnated with iron as to be only fit for the manufacture of pipes, runs under the beds of potter's clay lying east of the coal strata: white quartz and sand are found under this.

Most of the metals occur among the minerals of this county. Gold, silver, antimony, bismuth, and cobalt, exist in small quantities; lead, copper, tin, iron, and manganese, in greater quantity. The tin works of Devonshire were once very productive; and now, after being for some time nearly abandoned, the tin is again worked in several parts. This metal was formerly obtained almost wholly by what is termed streaming, and remains of the ancient stream works are found in every part of the granite district and its immediate neighbourhood. Copper ore, of rich quality, is found near Tavistock, which is the centre of the copper district, and at Buckland in the Moor. At Buckfastleigh, about three miles S.W. by S. of Ashburton, copper-mines were long worked extensively. Veins of lead ore, with silver combined in a small proportion, were discovered some years ago at Combe Martin, a few miles east of Ilfracombe. Lead has also been worked at Hennock, 8¾ miles south-west of Exeter, and at Ilsington, 12½ miles south-west of Exeter; and still more extensively at Beer Alston and South Hooe, on the Devonshire bank of the Tamar: at this last place, and in one or two other mines in the neighbourhood, it is now produced.

Iron has very recently been worked in a large lode near the base of the Hey Tor rocks. The lode to the depth at present explored is a very regular stratified one of oxidulated iron ore and argillaceous schist in alternate beds, varying in thickness from half a foot to three or four feet; the central bed, which is the largest, is of iron ore. The chief part of the ore is of a compact texture, but portions of it, especially on approaching the surface, are coarsely granular. The per-centage of iron contained in the ore varies from 40 to 70. Micaceous iron ore occurs in small lodes, provincially known as *shining ore:* it contains so large a proportion of carbon that it may be considered as an inferior kind of graphite or plumbago, and is applied to many of the same uses. It is worked in the parishes of Hennock, Lustleigh, Moreton, and Bovey Tracey; and after being washed, it is packed in casks in a pulverized state, and sent in limited quantities to Teignmouth and Exeter, whence it is shipped. Manganese has been worked to some extent at Doddiscombsleigh, Hennock, Ilsington, and Ideford.

The climate of Devonshire is so mild on the south coast that myrtles flourish all the year round in the open air; and it is considered so salubrious that the invalid, instead of seeking health in the south of Europe, has a better chance of finding it on his own southern coast.

The soil varies in fertility according to the rock on which it reposes. In the granite district it is either sandy or peaty, or more frequently a mixture of both; and this on the whole is the least fertile part of the county, but it has some extensive vales of considerable fertility and beauty. Towards the granite formation, in the slate district, the soil is poor and barren, affording only scanty pasturage; while in a great part of that farthest removed from the granite the soil is of an open and crumbly texture, extremely favourable to vegetation. Some parts of the north

of Devon and the South Hams on the south-east are exceeded by few tracts in the kingdom in rich and productive soil. The limestone district is not so uniformly fertile as the better parts of the slate district: the soil is often thin, and consequently too near the solid rock to admit of luxuriant vegetation. The red sandstone district is the most uniformly fertile. Both arable and grass husbandry are attended to in this county. Wheat, barley, beans, and peas are the usual crops towards the eastern part; the South Hams is noted for its barley crop; wheat, oats, and the artificial grasses are more usual towards the west. In some parts considerable attention is paid to the breeding of sheep and cattle, but the pasture-lands are most generally appropriated to the purposes of the dairy. Great quantities of cider are made in the South Hams district, its soil being particularly well adapted to the growth of the apple, which likewise flourishes in the red sandstone district, where much cider is made.

This county is divided into thirty-two hundreds, which contain 464 parishes: it contains one city and 39 market-towns. It is likewise politically divided into northern and southern divisions, each of which sends two members to Parliament.

The northern division comprises, hundreds:—Bampton, Black Torrington, Braunton, Crediton, Fremington, Halberton, Hartland, Hayridge, Hemyock, North Tawton and Winkley, Shebbear, Sherwell, South Molton, Tiverton, Witheridge, and West Budleigh.

The southern division comprises, hundreds: — Axminster, Clyston, Colyton, Ottery St. Mary, East Budleigh, Wonford (except what is included in the city of Exeter), Lifton, Exminster, Teignbridge, Hey Tor, Coleridge, Stanborough, Ermington, Plympton, Roborough, and Tavistock.

Exeter, a city and county of itself, situated in the north-east part of the south division, is about 155 miles direct distance W. by S. of London. It stands on a gentle slope on the east side of the Exe, which flows in a winding course round the south-west part of the city. Exeter, with its suburbs, contains 19 parishes. It sends two members to Parliament: the limits of the parliamentary borough were enlarged by the Boundary Act, and take in two more parishes, together with the village of Heavitree adjoining. This city is a place of great antiquity, and appears to have been a British settlement prior to the Roman invasion. It is the Isca of Ptolemy, and it is supposed that a Roman legion was stationed here in the time of Agricola. In the Saxon period, Exeter was also of some importance. The present city, exclusive of the suburbs, is a mile and a half in circuit. It was formerly surrounded by walls, which were entire in 1769, but many parts have since been taken away, with all the gates. The suburbs extend in every direction from the walls, but are most densely inhabited towards the north-east and south-east. The best part of the city consists of four principal streets diverging from a centre, and connecting the city with the suburbs: many other streets branch out from them. The Cathedral*, which was commenced in the tenth century, is said not to have been completed for 500 years. Its architecture, however, presents the same uniformity as if it had been the work of one individual, a fact somewhat at variance with the statement just made. The towers are of Norman architecture, and somewhat older than the rest. Quivil, who succeeded to the bishopric in 1281, made many alterations and additions, and as far as possible gave uniformity to the whole. To him the extent and magnificence of the present structure are ascribed. It consists of a nave with two aisles, a choir with aisles, north and south transept, which are surmounted by Anglo-Norman towers; and ten chapels, or oratories, with a room called the Consistory Court. From the western door to the organ screen it measures 175 feet, and the width within the walls is 76 feet. The north tower contains a bell weighing 12,500 lbs. There are fifteen parish churches within the walls of the city, and four in the suburbs, besides several chapels and a synagogue. Among the public buildings and institutions are:— First, the sessions-house, a handsome building, in which the assizes, quarter-sessions, and county-courts are held. Second, a spacious guildhall. Third, a theatre and circus. There is a public library in the cathedral yard, called the Devon and Exeter Institution. The Athenæum also, a literary institution,

* For a further description of this Cathedral, see Britton's Exeter Cathedral.

has a handsome lecture-room. The charitable institutions are very numerous. The principal is the Devon and Exeter hospital, for the benefit of the sick and indigent; it was founded by Dr. Alured Clark, dean of Exeter, in 1740, and was opened in 1747. There are various alms-houses in different parts of the city, and eight regular schools for educating and clothing, and two for maintaining poor children, besides many Sunday schools. A handsome new gaol, built at the end of the last century, stands on the north of the town; near to it is a house of correction, founded in 1807. They are extremely well constructed for the purposes intended, being airy and convenient, and affording facilities for constant inspection and classification, which are indispensable to the salutary discipline of a prison. There is likewise a lunatic asylum, fitted up in a most convenient manner. On the north of the city there are extensive barracks, and others likewise in the opposite quarter of the city. The remains of a castle, called Rougemont, supposed to have been founded by the West Saxon kings, stand on an eminence in the north-west corner of the city. The river is crossed by a handsome stone bridge, and on its side, near the walls, is a convenient quay, close to which the custom-house is built. Since the improvement of the canal, large vessels are enabled to come up to the town, and to discharge their cargoes at the quay, which is nine miles from the sea. Exeter was formerly a place of much greater trade than it is at present. The coarse woollen fabrics which it once exported to the Continent are now made and sent direct from Yorkshire. There is, however, still some trade in "long-ells," which are annually purchased to a large amount by the East India Company. Steam-boats go between London and Topsham, which is four miles below Exeter. The salubrity of the climate and cheapness of provisions attract many residents to Exeter. The population is respectable, and the society good.

Tavistock, on the river Tavy, from which it derives its name, is thirty-two miles west by south of Exeter. It is a very ancient borough, and sends two members to parliament: the franchise has lately been extended much beyond the former limits. Tavistock was founded in the tenth century, when a most magnificent abbey was built, the ruins of which can still be traced in many buildings devoted to purposes wholly different from their original destination. Many of the houses are old, but in general the town is well built; the streets are generally narrow and indifferently paved. There is one parish-church, which is a large edifice. A manufacture of serges for supplying the East India Company is carried on in this town. Tavistock communicates with the English Channel by the Tamar, with which it is connected by a short canal. At a very early date an institution for the study of Saxon literature was established at Tavistock, which was also among the first towns of England where the art of printing was introduced and practised. Sir Francis Drake was a native of this place.

Plymouth, a borough and sea-port, at the south-western extremity of the county, is thirty-six miles south-west of Exeter. It sends two members to parliament: the limits of the parliamentary borough were extended by the Boundary Act. The town stands at the head of the capacious haven of Plymouth Sound, which is formed by the bay that receives the æstuaries of the Tamar and the Plym. The Tamar enters at the western, and the Plym at the eastern, side of the Sound. Plymouth and the neighbouring town of Devonport occupy nearly the whole space included between these æstuaries, which is a piece of land five miles wide and three or four miles long. Plymouth is on the east side of the Sound, and about a mile and a half to the west is Devonport, a town of more modern origin. The streets of Plymouth are, in general, narrow and irregular; some of them are steep, and many of the bye-lanes are extremely dirty. Of late, however, many improvements have been made. There are two churches, one of which is very ancient; besides these, there are several meeting-houses for various denominations of Christians, and a synagogue. The guildhall is a modern, but not a very handsome building; adjoining it are the public prisons of the town, which are small and incommodious. The theatre is a very handsome building, in the construction of which a great deal of iron is used. An Exchange, a new market-place, a library, Athenæum, freemasons'-hall, and a mechanics' institute, are among the mo-

dern buildings, and are respectively handsome, and well adapted to their purposes. There are numerous charitable institutions in Plymouth: among them are several devoted to the purposes of instruction, and a grammar-school. Various fortifications have at different times been formed for the defence of this town. A citadel was erected in the time of Charles II., which consists of three regular and two irregular bastions, the curtains of the former being strengthened by two ravelins and horn-works. On the east, north, and west sides are a deep ditch, counter-scarp, and covered way palisadoed. Connected with the citadel is a lower fort, chiefly for the defence of the Sound. Besides the citadel, the harbour is defended by several works, raised on different points, but chiefly by the formidable batteries on St. Nicholas, a rock which rises nearly in the centre of Plymouth Sound. Under the eastern walls of the citadel stood the old Victualling Office, containing granaries and ovens for supplying the navy with bread. Government has several military establishments here—barracks, hospitals, and prisons. The citadel is the residence of a lieutenant-governor and other officers. The harbour of Plymouth is one of the best in England for extent and capacity, united with perfect security. Ships of war as well as merchant vessels can ride here in safety; and by recent improvements, a commodious and secure roadstead has been formed, which will contain 2000 sail. The outline of this fine harbour is irregular, and it is naturally divided into two or three parts. On the east is Catwater Harbour, formed by the æstuary of the Plym, and capable of protecting from the south-west gales upwards of 500 ships. A little farther to the west is Sutton Pool, which immediately adjoins the town, and is almost encircled by its buildings. Mill Bay, at a short distance from this to the west, is another division similarly situated; it is bounded on the west by a peninsula, jutting out into the main harbour.

In the year 1811, the land of three small inlets in the Catwater Harbour was reclaimed from the sea by an embankment, which was made for the purpose of forming a new high road to Plymouth, in order to avoid the former steep and circuitous road. This land has, by degrees, been brought into cultivation. Towards the southern extremity of the inlet, which opens into Sutton Pool, an establishment has been formed for receiving and shipping granite, which is brought to that point by the rail-road, which commences near the prison-barracks on Dartmoor. Plymouth carries on a considerable trade. Many of its inhabitants are likewise engaged in the pilchard-fishery, great quantities of which fish are exported to Italy and the Mediterranean.

On the west of Plymouth is the town of Stonehouse, connected with Plymouth by a new and handsome road; indeed, the two towns are united by continuous buildings. On the other side of a narrow æstuary, beyond, is the town of Devonport, which, till within these few years, was called Plymouth Dock, but which recently, in consequence of its growing importance, has been made a parliamentary borough, and sends two members to the Commons House. The limits of the franchise include Stonehouse, and extend from east to west more than one mile and three-quarters, and from north to south, nearly two miles and a half. These towns, both of which are connected with Plymouth by roads, were, a century ago, little better than hamlets. The peninsula called Cremhill Point, the south-west end of Mill Bay, is strongly fortified: at its extreme point, which is called the "Devil's Nose," there is a fort. There are likewise at Devonport a new victualling-office, a block-house, and a fine range of barracks. The Naval Hospital is at Stonehouse, where the ground is already built upon to nearly its utmost extent. Since the establishment of the Naval Arsenal at Devonport, in the reign of William III., this town has gradually increased to its present extent and importance. It is situated in a circular sweep at the mouth of the Tamar, which here forms a magnificent basin, called the Bay of Hamoaze, about four miles long and one mile and a half broad. It is an excellent harbour for ships of war, and in time of peace a considerable part of the English navy is stationed here. The dock-yard, which is recently completed, is acknowledged to be the finest in the kingdom: it extends along the shores 3500 feet in length, with a width in the middle of 1600 feet, and at each extremity 100; the whole includes an area of ninety-six acres. The basin of the dock is only 250 feet by 180, but the excellence of the harbour renders one of greater size unnecessary. The wharf wall extends

along the shore, and there is sufficient depth of water to allow the largest ships to range along the jetties, and take in their stores immediately from the wharf. In the line facing the harbour are two dry docks for ships of the first rate; a double and a single dock for ships of the line. Without the gates there is a graving dock. A canal communicating with the boat-pond runs nearly through the yard, to which stores are thus conveyed. Five jetties project from the entrances of the dry docks into the bay. All these are situated between the centre and the southern side of the dockyard. On the northern side are three slips for the building of vessels of the largest size, and two for those of a smaller class. Adjoining these is a building in which the planks of wood are steamed, when required to receive any particular curvature. Here, also, are the outer mast-pond and mast-houses, timber-berths, saw-pits, and an extensive smithery, containing forty-eight forges, in a building 210 feet square. Higher up, on this side of the yard, are mast-ponds, hemp-magazines, and a very fine ropery, consisting of two ranges of buildings; one the laying-house, the other the spinning-house, each 1200 feet long, and three stories high. The new rope-house is made almost entirely of iron. The largest cables made here are 25 inches in circumference. and 100 fathoms long, weighing nearly six tons. At this part of the yard is the mould-loft. On the northern side of the yard, besides the docks and basin, and the sheds and workshops of the different artificers, there is a quadrangular range of handsome stone-buildings, including an area of 450 feet by 300; within this space are two ranges of buildings, constructed of iron, which contain magazines for different kinds of stores, rigging-houses, and sail-lofts. In the upper part of the yard are the residences of the commissioner and principal officers, consisting of a range of good houses, with gardens attached to them. In this part, also, are the chapel, the guard-house and pay-office, the stables, and a fine reservoir of fresh water, which supplies the whole yard.

Devonport is a regular, well-built town; the streets intersect each other at right angles, and are paved with limestone, or a kind of marble which abounds here. The town and dock-yard are surrounded by fortified lines, which consist of a wall 12 feet high on the north and south-east; the walls of the dock-wharf and gun-yard protect it on the west. Other works are erected on different eminences. The parish-church is about a mile from the town, but there are two chapels and several meeting-houses. The government-house is a handsome building, appropriated to the business of the military; there are eight different barrack establishments, which can accommodate 3000 men. The military hospital is situated on the north-east without the line. The town is supplied with water from Dartmoor, under an Act passed in 1792; before that time the troops and inhabitants were supplied only by rain-water collected in tanks. Plymouth is likewise supplied with water by a cut from Dartmoor. Devonport, Stonehouse, and Plymouth are well lighted with gas, supplied from the same station at Mill Bay. On the north, without the lines, a new town has been erected, called Moricetown, which is inhabited principally by those who find employment in the works of Devonport and Stonehouse: these two towns are connected by a neat stone bridge of one arch.

Mount Edgecumbe, the seat of the Earl of Mount Edgecumbe, is situated on a peninsula, opposite to Cremhill Point, from which it is reached by a ferry. The entrance to the harbours described is by the great Bay of Plymouth Sound, which now affords an excellent and safe roadstead, by the construction of a breakwater at its entrance. Previous to the undertaking of this stupendous work, the exposed situation of the Sound to the heavy swell which is almost continually rolling in, often caused serious accidents to the shipping. The breakwater is a vast heap of stones deposited in the sea, about three miles south of Plymouth, in the middle of the sound, occupying nearly half its width, and leaving a free passage for ships on the east and west sides. This great work was commenced in August, 1812; in the following March the stones began to make their appearance above the surface of low-water; and at the end of the second year ships of all sizes ran in, and anchored with confidence behind the breakwater. This barrier was completed in three or four years, and fully answers the object of its construction. It is very nearly a mile in length. The middle part, for 4000 feet, is straight,

and the two extremities curve towards the sound. Where the water is 30 feet deep, the dimensions of the breakwater are, 40 feet high, 30 feet across the top, and 210 feet wide at the foundation. The whole contains about 524,691 cubic yards of solid stone, which is only about one-sixth of the contents of the great pyramid of Jizeh. The length of the breakwater at Cherbourg is nearly twice that of the Plymouth breakwater. About fourteen miles south-west of Plymouth is a reef of rocks, consisting of three principal ridges, which lie north and south, in which direction they measure about 600 or 700 feet in length: these are the Eddystone rocks, which are dreaded by the mariner, who, in seeking shelter in Plymouth Sound, has often been shipwrecked nearly at its entrance. As a protection against this danger, a lighthouse has been erected on these rocks. The first was finished in 1700, and in little more than three years was swept away by a storm. Another was erected a few years after, which stood between forty and fifty years, and was then accidentally destroyed by fire. In 1759 Smeaton completed the lighthouse which still remains a monument of his skill. The whole building is about eighty feet high. In boisterous weather, however, the waves dash over its top*.

Plympton Earle, a market-town, is situated in a pleasant valley, about a mile from the Plym, and four miles east of Plymouth. It consists chiefly of two streets, disposed in the form of the letter T. It contains the ruins of an ancient castle. The town has one church and a well-endowed free-school. In the guildhall, which is a very ancient building, is a portrait of Sir Joshua Reynolds, painted by himself, and presented to the corporation. This town was the birth-place of Reynolds, whose father was master of the gammar-school. Plympton sent two members to parliament till it was disfranchised by the Reform Act. It is remarked, (Municipal Corporations Report on Plympton Earle,) that "since the passing of the Reform Act, which disfranchised Plympton Earle, the supply afforded by the patron to the funds of the borough has been withdrawn, and the corporation will probably be suffered to fall into desuetude." The operation of this Act has been the same in many other small boroughs which had a patron.

Modbury, twelve miles east of Plymouth, consists of four streets intersecting each other at right-angles in the market-place. The church is a handsome edifice, rebuilt in 1621; it has a spire about 134 feet high. There are also two dissenting meeting-houses. Woollen, plush, and hat manufactures are carried on here, but they are not so flourishing as formerly.

Kingsbridge, a market town, near the south coast, seventeen miles E.S.E. of Plymouth, stands on the banks of a small river, which here widens into an irregular æstuary, affording a harbour for boats. This town is small but neat, and contains a grammar-school of some note. At the end of this æstuary, five miles from Kingsbridge, is Bolt Head, nearly the most southern point of the county. The south-east point of the coast is a high cape, called Start Point, which is nine miles south of Dartmouth, and where there is a light-house with a revolving light.

Teignmouth, twelve miles south of Exeter, is a very old town. It is now one of the principal watering-places on this coast. The town is situated at the mouth of the river Teign, on the north bank, and is divided by a small rivulet into the two parishes of East and West Teignmouth. East Teignmouth is the usual resort of visitors. The church of this part of the town stands near the beach. It has been rebuilt within the last few years on an enlarged scale, but in the original Saxon style. A new church has replaced the old one of the other parish. There is a modern theatre, and a large assembly-room. A bridge, which was constructed over the Teign, and opened in 1827, is the longest in the United Kingdom, being 1671 feet, and 429 feet longer than Waterloo bridge. It consists of 34 arches and a swing bridge, which opens in two parts, so that vessels of from three to four hundred tons may pass. The arches are made of iron and wood, and the bridge is 24 feet wide. The cliffs which there overhang the sea have a peculiar appearance, being mostly of a deep-red colour, and rising in irregular forms to the height of 70 or 80 feet. In some parts they are from 150 to 200 feet in height. Potter's clay forms an important article of export to Staffordshire. Vessels belonging to this port are engaged in the Newfoundland

* See, for a further description of Eddystone Lighthouse, Smeaton's account and history of it.

fishery. Salmon, salmon-peel, sea-trout, and various other fish are taken here.

Dawlish, about three miles north of Teignmouth, is a small watering-place, situated in a valley opening towards the ocean; fronting which are many good houses. The church is a fine Gothic building.

Chudleigh, a small town, nine miles S.S.W. of Exeter, was nearly destroyed by fire in 1807, but has been rebuilt since that time. The neighbourhood is celebrated for its cider. About half a mile from the town is Chudleigh Rock, consisting of immense masses of limestone, disposed in a picturesque form. Midway down the cliff is a large cavern with an arched entrance twelve feet wide and ten high; a passage 135 feet in length terminates in a spacious chamber. Fossil bones of mammiferous animals occur under the stalagmitic floors of these caverns, and indeed in many caverns in the limestone ranges of South Devon. Various quarries have been opened in this rock.

About five miles north-east of Dartmouth is Torbay, formed by two capes, about four miles apart, which leave a secure recess between, forming an arch approaching to a semicircle, where there is perfect shelter against westerly winds. Near this bay is a remarkable place called Kentshole, consisting of many caverns, entered by subterraneous passages. The Prince of Orange, King William III., landed in Torbay in 1688.

Torquay, 19½ miles south of Exeter, is situated on the north-west side of Torbay. Thirty years ago it was a mere fishing village, but from the extreme salubrity and mildness of the climate, together with the picturesque scenery around it, this place is fast rising into estimation as a winter residence. Handsome terraces and detached cottages have been lately built; fine hotels and bath rooms are erected, and it has all the usual requisites of a fashionable watering-place. Torquay is open to the south, and is at the same time protected from the north and north-east winds by the hills encompassing it. This town has a pier harbour, with no inconsiderable trade.

Brixham, 22½ miles south of Exeter, is a large and populous fishing-town, situated on the south of Torbay. It is divided into higher and lower; Brixham church town and Brixham quay, both of which, but especially the latter, increased and improved very rapidly during the last war, from the trade and expenditure of the fleets which frequently made a rendezvous of Torbay. Great improvements have been made in the buildings of the place. There is a chapel of ease at Brixham quay, and in the vicinity at Berry-head a naval hospital. Near Brixham church town there is a remarkable ebbing and flowing spring called Laywell. By a careful observation of a great number of fluxes and refluxes, it has been found to ebb and flow eleven times in an hour. (*Tour through Great Britain.*)

The borough of Dartmouth is situated near the entrance of the Dart into the English Channel, twenty-seven miles south of Exeter. It formerly sent two members to parliament, but the number was reduced to one by the Reform Act, and the limits of the elective franchise were much enlarged. The town, which is built on a craggy declivity, extends about a mile along the west bank of the river. The harbour is good and secure, and the entrance is defended by a castle and two platforms of cannon. At the opposite side of the river are the ruins of a more ancient castle, rising immediately above the water. To the north of the town are the quay and dock-yards, in which ship building is carried on to some extent. There are three parish churches, one meeting-house, and three charity-schools. One of the churches is situated on a hill about a quarter of a mile from the town, and has a tower 69 feet high, forming a good sea-mark. Dartmouth once possessed a large share of the trade to Newfoundland, but this branch of commerce has gradually declined. The coasting trade also, which was formerly carried on to a considerable extent, has lately been diminished by the rivalry of the neighbouring ports. Steam-vessels pass between London and this place. There are likewise steam-vessels on the Dart from Dartmouth to Totness.

There are several charities in the town, and a school, to the master of which the corporation used to give 10*l.* a year: the school is now discontinued. The town has a modern but inconvenient gaol.

Totness, a market-town, situated on the west bank of the river Dart, twenty-two miles S.S.W. of Exeter,

and about nine from the sea, is a borough, and sends two members to parliament: the limits of the franchise are now extended to the whole parish, and the manor of Bridgetown, on the opposite side of the river. Totness is connected with Bridgetown by a bridge, forming the continuation of the principal street, which extends up the acclivity and along the brow of a steep hill: another street runs nearly parallel to this, and others intersect them at right-angles. Totness is one of the most ancient towns in the kingdom. It was formerly surrounded by a wall, and had four gates; the east and north gateways are still standing. There are also the remains of an ancient castle, erected in the time of William I. The church is a handsome structure, built in the fifteenth century. Totness contains a guildhall, with a small gaol under the same roof, and a grammar school-house, but has no building except the church worthy of remark. There are several charities in the town. The river is navigable for small vessels as high as the bridge: the chief trade is in coal and culm.

Ashburton is situated in a valley, nearly surrounded by hills, not far from the river Dart, and about eighteen miles south-west of Exeter. This town is an ancient borough, which till the Reform Act sent two members to parliament: the number is now reduced to one, and the franchise is extended to the whole parish. The town chiefly consists of two or three principal streets: it has a handsome church and a grammar-school. Spinning and weaving are carried on in the town; and there are productive mines of tin and copper in the neighbourhood. Buckfastleigh, a considerable village, three miles south-west by south from Ashburton, appears to have arisen from an abbey which was formerly established in the parish. The old parish church is situated on a high hill north of the village. Here are the largest manufactories of serge and blankets in the county. Newton Bushel and Newton Abbot, two parishes now forming one town, are 13½ miles south by west of Exeter. The houses are meanly built, and the streets badly paved. The church is about a mile west of the town, but two chapels of ease are situated within it. This town has one of the largest markets in the county, and is increasing in importance. It is one of the polling places for the county, as are also Holsworthy and Kingsbridge.

Honiton is a market-town, situated on rising ground, in a beautiful valley on the banks of the Otter, sixteen miles and a half E.N.E. of Exeter. Honiton is a borough, and sends two members to parliament: the parliamentary borough has been made co-extensive with the parish. The town consists of one long street, broad, and well paved and lighted; with other small streets branching from it. The houses are mostly modern, and covered with slate. The church stands on an eminence, about half a mile from the town: there are also in the town a chapel, and three meeting-houses. The inhabitants are employed in the manufacture of lace and edgings; large quantities of butter are sent to the London market. Honiton is one of the polling-places for the county.

Axminster, a market-town on the river Axe, twenty-four miles east of Exeter, formerly contained considerable manufactories of carpets, cloths, cotton tapes, druggets, and various leather goods: but they have somewhat declined.

Ottery St. Mary, twelve miles east of Exeter, is a market-town on the Otter. It is large and irregularly built, and contains many vestiges of its antiquity. The church is a spacious and curiously-constructed building. The remains of the ancient mansion of Sir Walter Raleigh are still shown here.

Sidmouth, a market-town, is situated in a valley between two high hills, near the mouth of the river Sid, and thirteen miles E.S.E. of Exeter. No boats, except pleasure boats and fishing smacks, can now approach the town, in consequence of the harbour being choked up with sand and pebbles. Sidmouth was formerly a seaport of some importance. It is now resorted to in the bathing season, and is become a highly respectable watering-place, with all the usual accommodations for visitors.

Exmouth, eight miles S.S.E. of Exeter, at the mouth of the river Exe, between the cliffs, is sheltered on the north-east and south-east by hills, which rise behind the town. Little more than a century ago, Exmouth was a small fishing hamlet but it has now become a sea-bathing place, for which, from the salubrity and beauty of the situation, it is well calculated.

The town has hot and cold baths, and an assembly-room. It is a chapelry of the parish of Littleham.

Topsham, a market-town, is at the junction of the Exe and Clyst, which almost surround it. The town consists of one long street of irregular breadth, extending north and south, and several smaller streets. The church stands near the centre of the town, on a high cliff. The quay is spacious and commodious. Topsham is only three miles and a quarter south-east of Exeter, and was in fact the port of that city. All the large ships were loaded and unloaded at this town; but since the extension of the canal nearly the whole of the shipping proceeds to the Exeter basin. Ship building is carried on to some extent at Topsham, and the manufacture of ropes and chain cables.

Oakhampton is a borough and market-town, in a valley on the northern border of Dartmoor, and on the great road from Exeter to Launceston, twenty-two miles west from the former place. The Okement, a branch of the Torridge, rises near the town. About a mile from the town are the ruins of an ancient castle, situated on a commanding height, which still show traces of its former strength. The church is also situated on rising ground, and is seen in a pleasing point of view from the surrounding heights. The population of the town only increased thirty-two between 1821 and 1831. The grammar-school is discontinued*. Oakhampton was disfranchised by the Reform Act. It is one of the polling places for the county.

Barnstaple, one of the principal towns in the northern division of the county, is situated on the Taw, six or seven miles from its mouth. The river here becomes an æstuary, forming a harbour, one mile wide and four miles long, capable of containing a thousand sail of ships. The tide rises from eight to fourteen feet: at the entrance is a bar, which runs off north-east from the neck of the harbour several miles, and prevents the admission of large ships. This town is of very ancient origin. It is supposed that King Athelstan erected it into a borough, and built a castle here, of which a high artificial mount is now the only vestige. Barnstaple has sent members to parliament ever since the reign of Edward I. The town consists of three or four principal streets, having the river Taw on the west, the river Yeo, one of its branches, on the north, and Cooney Cut likewise proceeding from the Taw on the south. All these are crossed by bridges. That over the Taw is an ancient stone bridge of sixteen arches, which has recently been ingeniously widened on each side. Along the bank of the river is a quay of some extent, at one end of which is a handsome piazza, surmounted by a statue of Queen Anne. Barnstaple is the port for an extensive and improving inland district, and carries on a steady trade. The manufacture of lace has been introduced within a few years. There are also establishments for the manufacture of other articles, which give employment to a considerable number of persons. The borough of Barnstaple sends two members to parliament, and it is one of the polling places for the county. It has a grammar-school, a national school, and several charities. There is a convenient and substantial gaol, and an infirmary, built about eight or nine years since, called the North Devon Infirmary. There are also a Mechanics' Institute and an Horticultural Society.

Tiverton, a market-town and borough, at the confluence of the rivers Exe and Loman, stands on a gentle slope rising from the rivers, and is twelve miles north of Exeter. One of the principal streets runs from one river to the other, both streams being at these points crossed by bridges. Three other streets form a quadrangle with this, inclosing an area of gardens; a few other streets diverge from them. The whole town is in general well paved, lighted, and watered with small streams from a branch of the Loman. Measures are in progress for lighting the town with gas. The houses are mostly of red brick or stone, and are generally covered with blue slates. On an eminence to the west of the town are the remains of a very ancient castle. The church, which stands on another elevation to the north-west, is a very handsome edifice, the work of different ages, but is, notwithstanding, tolerably uniform in its style. The free grammar-school is a fine building, 170 feet in length: it was built and richly endowed by a merchant, an inhabitant of the

* About forty years ago the Rev. Mr. Vicary was chaplain and master of the grammar-school; for many years last past there has been neither school nor chaplain. See Munic. Corpor. Report on Oakhampton.

town, about the year 1604. There is also another free-school, and a charity-school. The market-house is a large quadrangular building. The town-house contains various apartments for business. The woollen manufacture is not in a flourishing state. There is a lace manufacture on a large scale, which employs from 1200 to 1500 people. The town, by its trade, supplies an extensive rural district. Tiverton sends two members to parliament. The municipal borough is co-extensive with the parish.

Bampton, a market-town, on a branch of the Exe, six miles north of Tiverton, is a small and irregularly built place. Manufactures of serge and of pottery are carried on here. There is a chalybeate spring in the vicinity.

South Molton, a borough and market-town, twenty-four miles N.W. by N. of Exeter, on the river Mole, contains a handsome church, and a large and commodious guildhall. It is the election town for the North division of the county. The chief manufacture is woollen: the lace manufacture has recently been introduced. The streets are well paved and lighted; and the foot walks are flagged. The town is steadily increasing in population and trade. The gaol is good and convenient. South Molton has several charities.

Ilfracombe, a sea-port at the north-west extremity of the county, and at the entrance of the Bristol Channel, is nine miles north of Barnstaple. The coast here forms a safe and commodious bay, which has the appearance of a large basin hollowed out of the rocks, which bend in a concave semicircular curve. A bold mass of rocks stretches nearly half-way across the entrance of this recess, and shelters it from the violence of the northern storms. An artificial pier runs from these rocks to the mouth of the harbour, and thus renders this port a secure retreat for vessels of 230 tons. Ships enter here with ease, when the approach up the Taw to Barnstaple is dangerous, if not impracticable. Ilfracombe carries on a considerable trade from Cornwall and Devonshire to Bristol, and other ports; it likewise employs a number of vessels in the herring fishery of the Bristol Channel. The town chiefly consists of one long street, and of a number of good houses built along the side of the harbour for the accommodation of visitors, who, attracted by the romantic beauty of the place, and by the excellence of the sea-bathing, resort to it in considerable numbers during the summer months. Packets are constantly passing from this place to Swansea, as well as to and from Milford and Bristol. The church stands at the upper part of the town. The rock which occupies the mouth of the harbour rises nearly to a point, on the summit of which a lighthouse is erected.

Bideford is a borough and sea-port, nine miles south-west of Barnstaple, near the mouth of the river Torridge, which here, joining the Taw, forms with it an æstuary. A bridge, built in the fourteenth century, which contains twenty-four arches, and crosses the river, is 677 feet long; it is lighted at night. The town principally consists of two large well-paved streets; the rest are narrow and dirty, and the general appearance of the houses is mean. Besides the church there are two meeting-houses. The church is a large building, erected about the fourteenth century, but it has undergone many alterations since that time. A grammar-school was founded here in 1600, and there are likewise a large free Sunday-school, a national school, and two schools supported by dissenters. A new gaol has recently been built. There is a custom-house, and a fine quay, at which ships of heavy burden may take in and unload their cargoes. Building of small vessels is carried on here to a considerable extent. Earthenware is made and exported to Wales; there are likewise manufactures of woollen stuffs and carpets. This town carries on considerable trade, chiefly with Ireland, Wales, and North America. Anthracite, or culm, is found in the vicinity; one bed passes through the town, and there are two or three pits at the head of it.

Torrington is a market-town, beautifully situated on the slope and brow of a fine eminence, forming the eastern bank of the river Torridge, ten miles south by west of Barnstaple. It consists of one principal and other smaller streets: the houses are tolerably well-built. There are two parish churches, an almshouse, and a charity-school. This town carries on some trade with Ireland; but the glove manufacture is the chief business of the inhabitants. The grammar-school, which was kept in the town-hall, has been discon-

tinued for forty years. A stone bridge of four arches crosses the river.

Crediton lies between two hills, in a valley of great fertility, near the Credy, a branch of the Exe, seven miles north-west of Exeter. The town consists of two parts, respectively known as the East and West Town. In 1743, and again in 1772, the latter was very much injured by fire, but it has since been rebuilt in a good style. This town is supposed to have been a place of some importance during the Saxon period; it was the seat of a bishopric until 1049, when the See was removed to Exeter. The church is a spacious building, in the form of a cross, with a tower rising from the intersection of the nave and transept. Crediton contains a grammar-school, a charity-school for forty poor boys and girls, a Sunday-school attached to the church, and another at the Dissenters' meeting-house. A considerable manufacture of serges was formerly carried on here, but it has now declined.

Collumpton, eleven miles N.N.E. of Exeter, on the high road from that place to Bath and Bristol, consists principally of one long street. The church is a Gothic structure, with a nave, chancel, three aisles, and a lofty tower at the west end. There are likewise two Dissenting places of worship, and a free-school. Serges, kerseymeres, and broad cloths are made here to a small extent. It is one of the polling-places for the north division of the county, as are also Torrington and Crediton.

Bradninch, a borough, anciently called Braines, is six miles north-east of Exeter. In former times it sent two members to parliament; but on the complaint of the inhabitants, in the reign of Henry VII., that they could not afford to pay their representatives their wages, amounting to two shillings a day, they were excused on payment of a small fine. A new gaol has just been completed in place of one which, together with other buildings, was destroyed by fire, and which was extremely inconvenient and badly conducted. The town is well supplied with water: it contains a small paper manufactory.

Numerous noblemen's and gentlemen's seats are scattered throughout Devonshire. Among the principal of these are—Powderham Castle, the principal seat of the Courtenay family, situated on the banks of the Exe, three miles from its junction with the sea; Saltram, about three miles from Plymouth, is the seat of Lord Borringdon; Castle Hill, the seat of Lord Fortescue, is about two miles north-west of South Molton; Mamhead, the property of the Earl of Lisburne, is situated about 4½ miles east-by-north of Chudleigh; Haldon House, the seat of Sir Lawrence Palk, stands on the north-west extremity of the Vale of Ken, through which a small tributary of the Exe flows, and falls into that river near Powderham Castle.

Population of the city and market-towns of Devonshire:—

Exeter	28,201
Tavistock	5602
Devonport, Plymouth	75,534
Barnstaple	6840
Crediton	5922
Honiton	3509
Tiverton	9766
Collumpton	3813
Bampton	1961
South Molton	3826
Combe Martin	1031
Ilfracombe	3201
Bideford	4846
Hartland	2143
Torrington	3093
Oakhampton	2055
Moreton Hampstead	1864
Ashburton	4165
Totness	3442
Modbury	2116
Clifton-Dartmouth Hardness	4597
Chudleigh	2278
Topsham	3184
Ottery St. Mary	3849
Axminster	2719
Beeralston *	
Plympton Earle	804
Sidmouth	3126
Teignmouth	2876
Bradninch	1524
Holsworthy	1628
Hatherleigh	1606
Kingsbridge	1586
Colyton	2182
Chumleigh	1573
Brent	1248

The small island of Lundy, which is about 10 miles north-west of Hartland Point, belongs to Devonshire. It is a mass of granite, about 2½ miles long, the southern point of which is occupied by a lighthouse.

* In the parish of Beer Ferris, which contains 1876 inhabitants, is Beeralston, a disfranchised borough.

Authorities.

Polwhele's History of Devonshire.

General View of the Agriculture of Devonshire.

Risdon's Survey of Devonshire.

Jenkin's History and Antiquities of Exeter.

Weston on the Eddystone Lighthouse.

Smeaton on the Eddystone Lighthouse.

Gilpin's Observations on the Western parts of England.

Pole's Description of Devonshire.

The Teignmouth, Dawlish, and Torquay Guide, 1st and 2nd parts.

Moore's History and Topography of the County of Devon.

CORNWALL

forms the south-western extremity of England. It is surrounded by the sea on all sides except the east, where it is bounded by Devonshire: it lies in a south-west direction, forming a long irregular peninsula, which narrows as it approaches the Land's End. The Irish Sea bounds it on the north-west, the English Channel on the south-east, these two seas uniting at the southern point of the county, and there joining the waters of the Atlantic. The greatest length from the Land's End to the north-eastern angle is seventy-five miles, and the medium width is about eighteen miles: its circuit is about 270 miles, of which the sea-coast is nearly 200: its area is 1327 square miles.

The earliest known inhabitants of Cornwall were the Carnabii, and Damnonii, or Dumnonii. The Romans included it in Britannia Prima. Antiquities, generally supposed to be Druidical, abound in this county. In the parish of Constantine, 5½ miles south-west of Falmouth, there is a very curious Druidical antiquity, consisting of a large stone, 33 feet by 14, placed on the points of two natural rocks, so that a man may creep under the great one through a passage about three feet wide, and about the same height. A common natural phenomenon in the western part of this county, formerly supposed to be Druidical remains, are Rocking Stones, called by the inhabitants Logan, or Logging Stones. These are large stones so exactly poised as to be easily made to rock or vibrate. The most remarkable of these, called "the Logan Stone" by way of pre-eminence, is situated on the promontory called Castle Treryn (eight miles south-west of Penzance), and consists of three distinct piles of rocks. On the west side of the middle pile, near the top, there is a moving stone of a great size, so nicely balanced as to be easily made to produce a sensible oscillation by the application of the strength of a single man to its edge. A few years ago this enormous block of granite, said to weigh upwards of 60 tons, was dislodged from its situation by the master of a revenue cutter and his crew, and rolled to the bottom of the cliff. By the application of powerful machinery it was again raised to its former situation; but since that time it has materially varied its position, and is now secured by artificial means.

The general face of the county* presents a dreary aspect: a range of bleak and rugged heights stretches from the Land's End through its whole length, and towards the north-east spreads out on each side. Though the central and higher part of the county has an aspect of cheerless sterility, there are some valleys of great fertility and beauty, richly wooded, and watered by numerous small streams. The coasts are generally lined by lofty cliffs, composed of slate, granite, and other rocks.

The principal rivers of this county are the Tamar, the Lynher, the Looe, the Fowey, the Alan, and the Fal.

The Tamar has already been described as forming part of the boundary-line between Cornwall and Devonshire. The Lynher has its source among the hills in Alternon parish, whence, taking a south-east direction, it flows within a mile of Callington, and continues its course near to St. German's, where it empties itself into the estuary of the Tamar.

The Looe has two branches: one rises in the high grounds of St. Cleer, and flows about a mile west of Liskeard; the other branch rises to the south of this, and takes nearly the same direction: their waters meet and fall into the sea between East and West Looe.

The Fowey rises in the high lands, about four miles south-east of Camel-

* See also p. 60, &c.

ford, and, taking a very winding course, flows by Lostwithiel; being afterwards increased by several small rivulets, it expands into a deep and wide haven, and falls into the sea near Fowey.

The Camel or Alan rises near the hills a few miles to the north of Camelford, through which town it passes; thence, flowing by a very winding course, it is increased by several smaller rivers: the united waters form the harbour of Padstow, which opens into the Bristol Channel.

The Fal rises three miles east of the town of St. Columb Major, whence it flows southerly to Grampound and Tregony; it falls into the sea at Falmouth.

Besides these there are other smaller streams, which terminate in estuaries. None of the rivers of Cornwall, except the Tamar, exceed thirty miles in length.

There are no canals in this county, except the Bude canal, which has already been described in the account of Devonshire; and a small cut from Liskeard to Sand-place, ending in the Looe river. Several short rail-roads from the mines have been made in the mining districts to different parts of the coast. The prevailing rock in this county is clay-slate, through which granite rises and forms the summits of some of the principal hills and the high flats in the centre of the county. The granite occurs largely on the high ground between Liskeard and Bodmin; appears again on the hills of Carn-Marth and Carn-Brea, near Redruth; and forms the cliffs near the Land's End. Granite also occurs at Calstock, in the eastern part of the county, and may be considered as connected with that of Dartmoor. The clay-slate is metalliferous near its junction with the granite; it is therefore at these points that the numerous mines of the county are situated.*

The mineral products of Cornwall are the chief source of its wealth, and the mines employ a large part of the population. Copper and tin are very abundant, and there are numerous and productive mines of both metals. The rocks in which they are found extend from the Land's End in a general direction from west to east, entirely through the county into Devonshire, where formerly, and in the eastern part of Cornwall, large quantities of tin were raised, but the chief seat of mining is now in the neighbourhood and to the westward of St. Austell. From this place to the Land's End the principal mines extend along the north-west coast in a breadth of about seven miles. Copper is generally found in veins or fissures running in a direction from east to west, with a varying depth and breadth. These veins are here called lodes. Tin is found either in horizontal layers or lodes, or interspersed in grains or small masses in the natural rock. It is also found in the alluvial deposits in valleys. In 1835 Cornwall produced 12,270 tons of copper, which was found both in the clay-slate and the granite. Tin ore is sometimes found in the same veins with the copper.

The tin obtained from the mine is smelted and cast into blocks weighing from two to three hundred weight each. These blocks cannot be sold till they have been assayed and stamped. This operation is performed at certain towns called *Stannary* or Coining towns, to which the tin is taken in blocks every three months for the purpose of being, as it is called, coined; that is, to be assayed and licensed by the officers of the duchy, who take off a piece from the corner, or *coin* of each block, and, if they find the tin to be of the proper quality, stamp each block with the Duke's arms. The most extensive tin stream works are the Carnon stream works, which occupy a space one mile in length and 300 yards in breadth, the whole of which area appears to have been gained from the sea. The largest, and until lately the most productive, tin mine ever worked in Cornwall, is Huel Vor, situated about two miles from Helstone. The produce of the tin mines in 1835 was 77,980 cwt. of metal.

The copper lodes lie deeper than those of tin. Poldice, 170 fathoms deep, the oldest mine in the county, yields copper ore and tin grains, and is one of the most productive of the copper mines. The Consolidated Mines and the United Mines are on a very large scale, and besides these there are twenty-five of considerable magnitude, and fifty or sixty smaller.

The lead mines are not very productive or numerous: Huel Pool and Huel Rose near Helstone are the principal. Silver is said to have been once abundant. Huel Mexico, situated near the

* On the Mineral Topography of Great Britain, by A. W. Tooke, Esq., in the Mining Review, No. VIII. See also in the same Number a Geological Survey of the Carn Menelis District, Cornwall, by R. Thomas, Esq., of Falmouth.

sea, between St. Agnes and St. Michael's, the mine which is now worked for this metal, produces little profit to the proprietor. Gold has often been found, but in such small quantities as not to be worth collecting. There is iron ore all through the county, but it is not sufficiently abundant to repay the expense of working it. In the principal mines, steam engines of very high power are used to clear the mines from the waters. But for this invention much of the mineral wealth of Cornwall would be inaccessible.

Cornwall was erected into a duchy in 1337, in favour of Edward the Black Prince, and settled by Act of Parliament on the eldest son of the King of England being heir-apparent. When there is no such eldest son, the duchy is vested in the crown. The mining trade is under the jurisdiction of the Stannary Courts, which were regulated by an Act passed in the 6th and 7th of William IV., c. 106. By section 6 of this Act, the old Stannary Courts are consolidated, and held before the Vice Warden, whose court is made a Court of Record, and sits at Truro.

A mile or two to the north of the Lizard Head, the extreme south-east point of the county, a curious rock is found, popularly known as Soap Rock. Its colour is whitish or straw yellow, with streaks of purple, green, and red. When first taken from the cliff this substance (steatite) is wet and compressible by the hand, but it hardens on exposure to the air. It is used in the manufacture of porcelain, and the whole rock is rented by the proprietors of the Worcester china manufactory.

The china stone, which is raised in large quantities in the parish of St. Stephen's in Brannell, near St. Austell, forms a principal ingredient in the Staffordshire potteries. It is found to be decomposed granite, the felspar of which has lost its property of fusibility. Asbestus is sometimes found in the parish of St. Cleer.

The soil of Cornwall varies considerably in different parts, but three kinds prevail. On the high lands the soil is a light black gravelly earth, intermixed with small particles of granite on a substratum of quartz; beneath this quartz is found a clayey loam, which being mixed with the earth on the surface produces an excellent soil. The more general soil is composed of schistose rocks mixed

pure loamy soils are of no considerable extent, and are chiefly found on the low grounds and banks of rivers; but some of these, as, for instance, about Penzance, are highly productive.

The climate of Cornwall though healthy, is not particularly inviting. For the greater part of the year the wind, blowing from the points between south and west, brings from the Atlantic heavy clouds surcharged with moisture, which, being condensed by the high ground in the centre of the county, pour forth torrents of rain. The storms around the coast are sometimes very violent, but their injurious effects are principally confined to vessels at sea. Though showers are frequent and heavy, fogs are scarcely known, in consequence of the circulation of adverse currents of air, which prevents the accumulation of mist. Though the weather is changeable, yet the seasons are more equable than in other parts of England. The winter is never very cold, nor is the summer hot. Myrtles and other tender plants flourish in the open air; and in some parts two crops of potatoes can be got in the year. Indeed the climate of Cornwall, owing to the peculiar position of the county, is the mildest part of all the island. But the excessive violence of the winds, and the saline particles with which the atmosphere is loaded, are extremely adverse to the growth of even the most hardy trees in the vicinity of the sea, and every attempt at their cultivation in this situation till within some few years back proved unsuccessful. Plantations, which have been protected by rows of fir trees, have now assumed a more promising appearance.

A great proportion of the land is still unenclosed and uncultivated, but affords pasture to large quantities of horned cattle, and occasionally sheep. The more fertile soils are in general well cultivated, and give good crops of wheat and other grain. A considerable part of the land under tillage is devoted to the growth of potatoes, for which crop the soil is peculiarly favourable. In the eastern districts grain is produced more than sufficient for the consumption of the immediate neighbourhood, but very inadequate for the supply of the whole county.

A great variety of fish frequent the coast of Cornwall. The pilchard is the most abundant, and great shoals appear in July and depart in October.

Many of the inhabitants of the coast are engaged in this fishery, from which a considerable profit is derived. The pilchards are cured, and largely exported to Italy and the Mediterranean.

Cornwall is divided into nine hundreds, containing 213 parishes. It is also politically divided into eastern and western divisions, each of which is represented by two members in Parliament.

The eastern division comprises the hundreds of—East, West, Lesnewith, Stratton, Trigg, eastern division of Powder, north-eastern division of Pydar.

The western division comprises the hundreds of—Kerrier, Penwith, western division of Powder, south-western division of Pydar, and also the Scilly Islands.

Bodmin, the election town of the eastern division, is a borough, and is represented by two members in parliament. This privilege was first granted in the reign of Edward I., and before the Reform Act the right of voting was confined to the thirty-six capital burgesses; but the limits of the parliamentary borough are now extended to the whole parish and three adjoining parishes, and the number of electors registered is 252.

The distance of Bodmin from London is 234 miles, W.S.W. This town is conjectured to be of very ancient origin. In some ancient charters it is called Bosmanna and Bodman, or the *Abode of the Monks*, from the circumstance, it is supposed, of St. Petroc having fixed his residence in this valley in 520, and founded a priory on the spot now occupied by the present town. Bodmin must have been much larger and more populous some centuries ago than it now is, since it appears that in 1351 1500 persons died there of a pestilence; a number nearly half of the present population. Some monumental stones in the neighbourhood are supposed by antiquarians to be Druidical remains. The town consists principally of a single street, about a mile in length from east to west, situated in the middle of a vale between two hills. It has a spacious church, rebuilt about 1470, consisting of three aisles, 123 feet long and 60 feet wide; on the outside of the north aisle is a square tower. There are likewise three chapels for Dissenters. There is a grammar-school, endowed with a small annual payment from the exchequer by Queen Elizabeth. The county gaol and a bridewell, arranged on Howard's plan, is a large building, situated about half a mile north-west of the town. The town-hall consists of part of the ancient refectory of the convent of the Grey Friars. The corn-market is held in the area, and above is an assembly-room. A lunatic asylum has lately been built near the bridewell.

Bodmin is the market for an extensive agricultural district, and the place where a considerable part of the business of the county is transacted. A manufacture of common serge and a trade in wool are also carried on, but not to any great extent.

Launceston is a market-town and borough, near the borders of Devonshire, on a branch of the Tamar, about twenty miles north-east of Bodmin. It is situated on an eminence and steep declivity, and consists of two principal streets and some smaller ones, which are in general narrow, but several of the houses are handsome and well-built.

Launceston was formerly a walled town, and two gates are yet standing. Till the Reform Act it sent two members to parliament; the number is now reduced to one, and the limits of the parliamentary borough are much enlarged. Launceston is neither a manufacturing nor a commercial town, but is a place of considerable antiquity, and derives some importance from being one of the towns in which the county business is transacted. There are the ruins of an ancient castle, which still cover a considerable extent of ground, and attest its former strength and importance. The church, which is in the centre of the town, is a very ancient and curious structure, built with square blocks of granite, each of which is ornamented by rich carvings; at the west end is a lofty tower. The other public buildings are the guildhall, the county gaol, situated within the area of the castle, and the borough gaol, which is a very unsuitable building, erected over the south gate. There are likewise a grammar-school, endowed by Elizabeth, and two charity-schools.

Liskeard is a market-town and borough, 11½ miles east of Bodmin. It is partly situated on rocky hills, and partly on a bottom, which gives the town a very irregular appearance, the foundations of some houses being on a level with the chimneys of others. The church, on the eastern side of the ascent to the town, is a spacious and

handsome structure. Besides the church, there are three meeting-houses for Dissenters. The town-hall is a good building. There is a grammar-school, at present closed owing to the want of funds to support it, and a charity and two national schools. Liskeard is neither a manufacturing nor a commercial town, but it has the advantage of being the market for an extensive agricultural district. Since the Reform Act it only returns one member to parliament.

Three miles north of this town is the village of St. Cleer, remarkable for its church; the neighbourhood possesses many objects of interest to the antiquary. Among these are remarkable circles of stones, called the "Hurlers," to which tradition affixes a legend. At a short distance eastward is "Cheese Ring," a pile of rugged rocks standing near the summit of a craggy hill, and rising to the height of thirty-two feet. There are eight circular stones; the great weight of the upper part, and the slender bearing between the third and fourth stones, make it matter of surprise that they should have retained their position through so many ages. The hill on which they stand is about 300 yards in circumference, and surrounded by a rampart of small stones. Several other similar groups of stones are scattered about the hill.

Lostwithiel, a borough and market-town, five miles south of Bodmin, stands on the Fowey, which was once navigable to this place, but is now choked up with sand. The town principally consists of two streets, running parallel from the river to the bottom of a steep hill, which rises to a great height on the west. The houses are built of stone, and mostly covered with slate. The church is small, consisting of one large and two small aisles, with a tower at the west end. A salary is paid by the corporation to the master of a classical school, and another salary to the master of a writing school. The woollen manufacture is carried on here.

Fowey, a sea-port and borough, eleven miles south of Bodmin, on the western bank of the river Fowey, which near the town expands into a capacious and safe harbour. The town extends nearly a mile along the banks of the river; the streets are extremely narrow and irregular. The entrance to the river is defended by three forts, one of which was erected in the reign of Henry VIII. The church is a large and venerable building. There are a free school and an almshouse. The chief business of the town is the pilchard fishery, which is pursued on an extensive scale. Fowey was disfranchised by the Reform Act. The town for some years past has ceased to have a corporation. Certain property was once granted to the corporation for the maintenance of a grammar-school, which they are charged with misapplying.*

East and West Looe, fourteen miles south-east of Bodmin, and on the opposite banks of the mouth of the river Looe, are connected by a long, narrow, irregular bridge of fifteen arches, 141 yards in length and only 6 feet 2 inches wide. East and West Looe are two distinct municipalities, and till the Reform Act they both sent members to parliament; they are now disfranchised. East Looe is mostly built on a small, flat piece of ground, having the river on the west and the sea on the south. The town consists of short, narrow, dirty alleys. It has a small chapel of ease. The port is protected by a small battery and breast-work. A mathematical school was founded here in 1716 by the trustees of the will of John Speccot, Esq.

West Looe lies in a bay on the opposite bank of the river. The town consists principally of one street of mean irregular houses, built on the side of a hill, and a few buildings along the bank of the river. There is a small guildhall, which was anciently a chapel, and a Methodist meeting-house; there is a fort and ten guns on the beach. The appearance of both towns is extremely picturesque, being surrounded by steep and high hills, the acclivities of which are covered with gardens hanging one over the other. The inhabitants are principally supported by the pilchard fishery; they likewise carry on an inconsiderable coasting trade. A small island lies opposite the mouth of the Looe, on which was formerly a chapel dedicated to St. George. The island is now the resort of various kinds of sea-fowl.

St. German's, situated on a branch of the river Lynher, 18½ miles E.S.E. of Bodmin, consists of one principal street, built on the slope of a hill. The church was once a cathedral, and is a fine specimen of Saxon architecture. This town contains a free school and a parochial library. The inhabitants are

* Report on Municipal Corporations, Part i. p. 505.

mostly engaged in fishing. St. German's is one of the recently disfranchised boroughs.

Saltash, a borough, situated on a steep acclivity on the west side of the estuary of the Tamar, is twenty-three miles east-by-south of Bodmin. The foundation of the town is on a solid rock, and the buildings are formed of the native stone. The main street runs along the direct ascent of the hill, and the houses rise one above another to the summit. The chapel and the mayoralty hall stand near the top. The streets are narrow, and in general irregular. There is a chapel of ease and two meeting-houses for Dissenters, and a small free school. The fishery forms a great part of the occupation of the inhabitants. From its proximity to Devonport and Plymouth, many persons belonging to the dockyard reside in this town. A considerable traffic is likewise carried on in malt and beer, and in furnishing Devonport with articles of domestic consumption. Saltash is one of the lately disfranchised parliamentary boroughs.

Callington, 18½ miles east of Bodmin, consists chiefly of one broad street, and contains a large church. A manufactory of fine cloth is carried on here. It is a disfranchised parliamentary borough.

The small towns of Bossiney and Camelford are also disfranchised parliamentary boroughs.

Padstow is situated on the west side of Padstow Haven, formed by the estuary of the Camel, eleven miles N.N.W. of Bodmin. Its streets are narrow, but well paved; and within the last half-century this town has been much improved by building. The houses are covered with fine blue slate, brought from the Denny-Ball slate quarries in the neighbourhood. Padstow is a place of great antiquity, and is supposed to be the spot where the first religious house was founded by St. Petroc. Besides the church there is a Methodist chapel. The harbour is considered the best on this part of the coast; in the narrowest part it is 70 fathoms wide, and there is always a depth of 3 fathoms at low water: ships of 500 tons burden can enter. Padstow has a custom-house and quays; and it carries on trade with Bristol, Wales, and Ireland.

St. Austell, ten miles south-by-west of Bodmin, was formerly a place of more note than at present. The town is built on the eastern side of a hill, which slopes gradually towards a small stream that runs through a narrow valley. The streets are very narrow, and have no foot-pavement. The church is a fine old building, consisting of three aisles; there are three places of worship for Dissenters. The Blackmore Court, the most considerable of the Stannary Courts, was held in this town, and formerly contributed to its prosperity. Several tin-mines are worked in its neighbourhood; the stream already mentioned impels in its course the machinery of several stamping-mills, and also serves to cleanse and separate the tin from the pounded matrix. Porcelain clay is dug near here for the Staffordshire and other potteries. A woollen manufacture is likewise carried on. There are three blowing-houses for smelting ore in the town; and for several years these were the only ones in the county. This town is on the high road between Plymouth and the Land's End. Many of the inhabitants are engaged in the pilchard fishery. There is a rail-road connecting the town with the harbour of Pentewan, a distance of 3½ miles.

Truro is considered the capital town of the county, and is the election town for the western division. It is 257 miles west-by-south of London, and 20 miles south-west of Bodmin, and is situated in a vale at the confluence of the two small rivers, the Kenwyn and the Allen, both of which flow through the town, and, joining at its extremity, fall into a branch of Falmouth Harbour, commonly called the Truro river. At this part the waters at every spring-tide cover a space two miles in length, and of sufficient depth to be navigable for vessels of upwards of 200 tons burden. The town consists of about twelve principal streets, some of which are wide and handsome, and contain good houses faced with granite, and in some cases with freestone. It is lighted with gas and paved. The church is a fine structure of the fifteenth century. There are several meeting-houses. The town-hall is situated over the principal entrance of the market-place, and is a large substantial building. An infirmary for the county stands on an eminence at the south-west part of the town. Truro has likewise several other charitable institutions. There are a free and a national school, a theatre, and a county library, besides several societies for re-

creation and amusement. The coinage hall is a heavy, ancient building, in which most of the tin from the mines of the county is *coined*, and all business connected with the tin trade and the Stannary laws is carried on. The quantity of tin and copper exported from Truro is greater than from any other part of the county. The copper ore is principally shipped to South Wales to be converted into metal, and coal is brought back for the use of the mines.

The commerce of this town in other respects is not extensive, but it is rapidly increasing in wealth and population, owing to the success of the mining speculations carried on in the neighbourhood. There is a manufactory for converting block tin into bars and ingots, a blowing-house for refining tin, a foundry for casting iron tubes employed in the mines, two potteries, and a carpet manufactory. It sends two members to parliament; the limits of the franchise were extended by the Boundary Act.

Penryn, a market-town and borough, seven miles south of Truro, stands on the declivity of a hill rising from a creek which runs into Falmouth Harbour. It consists chiefly of one wide street and two or three smaller ones. The town-hall and the market-house stand in the principal street. There are a custom-house and a quay. The town is supplied with water by several streams from the neighbouring heights, one of which forms a cascade, which, with the surrounding mills and cottages, presents a very picturesque scene. Penryn has no manufactures of importance, nor is its trade very great, though it is said to have increased of late*. The commodities imported are only those required for the consumption of the town and for the use of the mines in the immediate neighbourhood. The principal and almost only article of export is the granite, which is worked a few miles from the town.

Falmouth, a borough, is on the western side of the harbour of Falmouth, and about two miles from Penryn, with which town it now sends two members to parliament. Falmouth consists principally of one long street, extending nearly a mile along the beach. It has several charitable institutions, and a custom-house and post-office. Falmouth derives its importance from being the principal station for the packets which carry foreign mails to all parts of the world. It is peculiarly well adapted for this purpose, since vessels can at once sail into the open sea, and are saved the tedious and uncertain work of beating down the Channel. There is a fine and spacious roadstead, capable of receiving the largest fleets, and ships of the heaviest burden may come up to the pier of the town. Pendennis Castle, which is on the extreme point of land on the west of the harbour, about a mile from Falmouth, commands the entrance. The works are a mile in circuit. On the opposite side of the harbour is the castle of St. Mawes, which is very inferior to that of Pendennis. A considerable fishery in pilchards is carried on at Falmouth. There is also an extensive coasting trade between Falmouth and London, Plymouth, Bristol, &c., and some foreign trade. The principal imports are timber, hemp, tallow, &c., from the north: fruits, wines, and spirits from the south; rum and sugar from the West Indies; provisions, grain, &c., from Ireland. Tin, copper, pilchards, &c., are its chief exports.

St. Mawes, from which the castle of St. Mawes takes its name, is a small fishing village, which was disfranchised by the Reform Act.

Tregony, a market-town, six miles east of Truro, on the banks of the Fal, was formerly a place of some consequence, but fell into decay when Truro began to flourish. It was disfranchised by the Reform Act.

Grampound, also disfranchised by the Reform Act, is six miles east-by-north from Truro.

Helstone, a borough, is situated near the mouth of the small river Hel, sixteen miles south-west of Truro. It principally consists of four streets; in the centre of the chief street are the market-house and town-hall. The church steeple, from its height, forms a good landmark to seamen. Helstone is the market for an extensive agricultural district, and it also participates in the advantage derived from the success of the mining speculations carried on in this part of Cornwall. There is a large number of mechanics, especially shoemakers, in the town, which, on the whole, is in a thriving state. Improvements were some years ago made in the harbour of Portpleven, three miles from the town, by which it was intended to

* Municipal Corporation Reports.

afford facilities to Helstone, and the mining district around, for communication by sea with London and other places; but the pier and other works are fast falling into decay. There is an excellent grammar-school, recently re-modelled. This town was represented by two members in parliament; by the Reform Act the number was reduced to one, and the limits of the parliamentary borough have been considerably extended.

St. Ives, a borough, twenty miles west-by-south of Truro, is situated on the west side of the bay of St. Ives. It consists principally of one long street, branching out on the south into two smaller ones. The houses are in general of a moderate size. The church is a low, spacious building, situated near the sea; there are two meeting-houses for Dissenters, and Sunday schools. The principal employment of the inhabitants is in the pilchard fishery. In favourable seasons large quantities of fish are annually exported, and a considerable supply is also furnished for the consumption of the town and neighbourhood. Several new mines have been opened in the vicinity. St. Ives now sends only one member to parliament, and the limits of the parliamentary borough have been much extended.

Penzance, a borough, twenty-four miles south-west of Truro, is situated on the north-west side of Mount's Bay. The town consists chiefly of four streets, meeting in a common centre at right angles; they are in general indifferently paved: most of the houses are mean. There are a chapel of ease, four meeting-houses, and a synagogue: a grammar-school and a dispensary. The trade of the town is considerable; tin and copper, which abound in the vicinity, are exported in large quantities, and the fishery in pilchards and other fish is carried on with great activity. The harbour is only adapted for small vessels, being almost dry at low water. The pier is more than 600 feet in length, and a lighthouse is erected at the extremity. The mildness and salubrity of the air, and the pleasant situation of the town, render it a desirable residence; and many societies have been formed for amusement and instruction.

Marazion, a borough, situated on the same bay 3½ miles from Penzance, derived its origin from the resort of pilgrims to the sacred edifice on St. Michael's Mount, in its vicinity; but with the cessation of the pilgrims' visits its importance disappeared. It contains a chapel of ease, two meeting-houses, and a grammar-school, which is held in the guildhall. It imports timber, coal, and iron, for the use of the neighbouring mines.

Redruth, a market-town of great antiquity, eight miles west-by-south of Truro, stands in a high exposed situation. It consists chiefly of one long street, built on a steep acclivity. Besides the church there are three places of worship for dissenters; also a subscription charity-school, and a Sunday-school. Redruth derives all its importance from its central situation with respect to the mines. The commercial transactions of the miners are carried on here. The veins of tin and copper worked in the neighbourhood are very rich.

Camborne, a market-town, 11½ miles W.S.W. of Truro, is situated in the midst of the mining district; several villages in the parish are almost entirely inhabited by miners. The market, first established in 1802, is well supplied with provisions. The petty-sessions for the hundred are held in this town. It has a small free-school.

St. Agnes, a small town nine miles north-west of Truro, carries on some trade with Wales and Ireland in slate, coals, lime, &c. The pilchard fishery is likewise carried on. It has a jetty pier made of moorstone, erected in 1794. The number and magnitude of the mines worked in the neighbourhood of the town render St. Agnes a very populous parish.

Scilly Islands are a numerous group about thirty miles west of the Land's End. According to Borlase their number is 140, twenty-seven of which are the principal, and comprise together about 4486 acres. Only six of the islands are inhabited:—St. Mary's, Trescow, St. Martin's, St. Agnes, Sampson, and Bryher. The inhabitants are principally engaged in agriculture, in fishing, and in the manufacture of kelp, which last occupation was first introduced in 1684, and has added considerably to the prosperity of the islands. The principal crops grown are potatoes, barley, peas, and oats; cattle are fed in most of the islands.

St. Mary's, the largest and most important of the whole group, is about 2½ miles long, and its circumference between nine and ten miles. It contains

three towns, a pier, a garrison, custom-house, a council-house, and a prison.

New Town, or Neugh Town, is the chief settlement of the island; on the summit of the neighbouring peninsula is a small fort, built in 1593, and called Star Castle, from having eight points projecting like the rays of a star. There is good anchorage formed by a sandy bay, sufficiently capacious to contain a hundred sail of 150 tons burden. The houses are chiefly low buildings. The other towns are Old Town, and Church Town, and have nothing worthy of notice.

About one mile south-west of St. Mary's is St. Agnes, on which there is a very high and strong light-house, the rocks here being numerous and dangerous.

The island of Trescow, or Trescoe, is nearly two miles north-west of St. Mary's, and is only about half the size of that island.

The island of St. Martin is somewhat smaller than Trescow, from which it is situated about half a mile eastward.

Bryher Island, which lies to the west of Trescow, is very hilly. Many small barrows are scattered over different parts of the downs.

Sampson's Island is composed of two circular hills connected by a low rocky ledge. On the summit of one of the hills are eleven caverns, and, on the other, various ruins of houses.

St. Mary's Island has a church and a minister; the rest have chapels, and one minister for them all, appointed by the Society for promoting Christian Knowledge.

INHABITANTS.

St. Mary's	1311
St. Agnes	289
Trescow	470
St. Martin	230
Bryher	128
Sampson	37

These islands were known to the Greeks and Romans under the name of the Cassiterides, or tin islands. Strabo's description of the position of the Cassiterides (iii. 75) is by no means exact; but his observations on the working of the tin-mines, and those of Diodorus (v.) can apply to no other place than Cornwall, and prove distinctly that these mines were worked, and that tin was an article of export to continental Europe, before the Christian æra. It would seem as if the term Cassiterides was once applied to the peninsula of Cornwall, or, at least, that before the Roman settlement in Britain there was some confusion between the Scilly Islands and the peninsula of Cornwall.

Druidical remains are found in different parts of these islands. There are regular packets from Penzance.

Population of the market-towns and boroughs of Cornwall.

* Launceston	2231
Stratton	1613
† Camelford	
Fowey	1767
Padstow	1822
Bodmin	3782
Callington	1388
Liskeard	4042
St. German's	2586
Saltash (borough)	1637
West Looe (borough)	593
East Looe (borough)	865
Lostwithiel	1548
St. Columb Major	2790
St. Austell	8758
Grampound	973
Tregony (borough)	1127
Truro	2925
‡ St. Mawes	
Penryn (borough)	3521
Falmouth	7284
Marazion (town)	1393
Helston (borough)	3293
Redruth	8191
Camborne	7699
St. Ives	4776
Penzance (chapelry)	6563
St. Agnes	6642

Authorities.

Polwhele's History of Cornwall.

Fraser's General View of the Agriculture of Cornwall.

Carew's Survey of Cornwall.

Borlase's Antiquities of Cornwall.

Lipscombe's Journey into Cornwall.

Heath's Natural and Historical account of the Islands of Scilly.

Norden's Speculi Britanniæ Pars.

A Topographical and Historical Description of Cornwall.

Gilbert's History of Cornwall.

* The population of the whole parish is included, and not merely the town or borough, unless so distinguished in the text.

† Camelford is included in the parish of Lanteglos, which contains 1359 inhabitants.

‡ St Mawes is in the parish of St. Just, which contains 1558 inhabitants.

MONMOUTHSHIRE.

Monmouthshire lies on the borders of Wales. It is bounded on the east by Gloucestershire, on the south by the Bristol Channel, on the west by Glamorganshire, on the north-west by Brecknockshire, and on the north-east by Herefordshire. It terminates at the north nearly in a point or tongue of land projecting into, and seeming to encroach on, the two adjacent counties. Independent of this, the form of the county is a tolerably regular quadrangle. Its greatest length from north to south is twenty-seven miles, and its greatest breadth twenty-five miles. Its surface is about 498 square miles.

When the Romans first invaded Monmouthshire it was peopled by the Silures, a tribe who fought with great courage to repel the invaders. Under the Roman dominion it was included in Britannia Secunda. Five Roman fortified places were situated in this county, which was also intersected by several roads.

The general aspect of the county is extremely diversified; in some parts being grand and picturesque, in others beautiful in all the rich variety of cultivation. The land rises from the south and south-east to the north-west, where it assumes a bolder character, and forms a continuation of the mountainous district of the south-east part of Wales. The narrow strip on the north is bounded on both sides by mountain ranges, which are branches of the Mynydd Cader, or Black Forest; the branch on the eastern side is called the Hatterell Hills.* The Black Mountain range extending east and west terminates on the east near Abergavenny with the Blawrange Hills. The mountains of Glamorgan extend into this county as far east as Pontypool, presenting several ridges stretching in various directions between north and north-west to south and south-east. The Sugar Loaf Mountain, 3½ miles N.N.E. of Abergavenny, is the highest elevation in Monmouthshire, and about 1800 feet above the sea. The level tract on the east of Pontypool, distinguished as the plain of Monmouth, extends as far east as the Wye and to the hills of Dean Forest; on the south it is bounded by the hills of Penca-Mawr, which extend north-east from within a short distance of Caerleon on the Usk to within a few miles south of Monmouth.* South of this last-mentioned ridge is a flat fertile tract extending to the sea.

The principal rivers are the Usk, the Ebwy, the Sirhowy, the Rumney, the Wye, the Monnow, and the Trothy. The Usk rises in Brecknockshire, and, entering this county a few miles west of Abergavenny, passes by that town, and thence takes a winding course to the south by Usk and Newport: it falls into the Bristol Channel a short distance below the latter place. Its whole course in the county is about forty miles. The Ebwy has its rise from two sources in the mountains of Brecknockshire, and enters this county on the north-west by two different branches, distinguished as the little and great Ebwy, the western branch being the principal; these streams flow between mountain ridges in a nearly southern course, meet about four miles west of Pontypool, and continuing their united course fall into the Usk on the right bank at its mouth. The Sirhowy, which enters the county a short distance west of the Ebwy, has likewise its source in the Brecknock Mountains, and joins the Ebwy seven miles west of Caerleon. The Rumney forms the boundary between this county and Glamorgan, and falls into the Bristol Channel a little below the village of Rumney. The Wye, which discharges itself into the Severn, nearly forms the boundary-line between this county and Gloucestershire. The Monnow, a feeder of the Wye, forms the boundary-line between this county and part of Herefordshire, and joins the Wye at Monmouth. The Trothy rises in the north part of the county, and after a circuitous south-east course, falls into the Wye a little below Monmouth. Besides these rivers there are numerous smaller streams. There are two canals and branches in this county; and communicating with them, several railroads leading to various iron works and coal mines. The Monmouthshire canal was commenced under an act of parliament in 1792, and continued under subsequent acts. It begins at the west bank of the Usk river, a little below the town of Newport, and extends in a north direction to Pontypool and thence to Pontnewydd, a total distance of more than 12½ miles. Near Malpas, a short distance north of Newport, there is a branch canal to Crumlin bridge eleven miles in length. From

* See p. 76.

* See p. 77.

this branch there is a railway to Beaufort iron-works; a branch to Sirhowy Furnace, another to Nant-y-glo Works, and a third to the Sirhowy Railroad, meeting the latter at Risca. There is also a railway from near Pontypool to Tronsant Furnace, and another to Blaen-Din Works. From the Usk to Pontnewydd there is a rise of 447 feet by the canal, and in its railway continuation to Blaen-Avon there is a rise of 610 feet in a distance of 5¼ miles. The rise of the branch to Crumlin bridge is 619 feet.

The Brecknock and Abergavenny canal, for which acts were passed in 1793 and 1804, commences in the Monmouthshire canal, about one mile south of the town of Pontypool, and thence runs in a northerly direction a short distance west of Abergavenny and on to Govilon, where it leaves this county and continues its course to Brecon. Its whole length is 18½ miles; the part in Monmouthshire is 14¾ miles, and is on a level throughout. A railway, which joins this canal in the parish of Llanwenarth, passes by Abergavenny to Llanfihangelcrugorney Court, and thence in a north eastern direction into Herefordshire, as far as Hereford. There is also a railway commencing from this canal in the parish of Mamhilad, and running to Usk bridge, which is rather more than five miles in length.

The Sirhowy Tramroad, for which an act passed in 1802, commences in the Usk river, at the Commercial Wharf, a little below Newport: it communicates with the Crumlin Branch Canal at three different places, and continues in the same direction as the Sirhowy River to the Tredegar Iron Works, nearly to the northern boundary of the county.

The Rumney Railway, commenced in 1825, joins the Sirhowy Tramroad at Pye Corner, about 2½ miles west of Newport. It begins at the Rumney Iron Works, near Bedwelty, and continues nearly due south to Trehir, following the course of the river which here makes a turn to the eastward; from Trehir, to the termination at Pye Corner, the railway runs nearly east; the whole length is 21¾ miles, with a rise of 756 feet from its junction with the Sirhowy Railway.

There is a railway from the town of Monmouth to the Forest of Dean, and there are likewise several smaller railways communicating with the canals.

The numerous railways just described owe their construction mainly to the mineral wealth of this district. Part of the great Coal Basin of South Wales extends into this county as far east as Pontypool, and occupies nearly the whole of the county west of that town. The strata of coal alternate with beds of ironstone of excellent quality, and there are numerous iron-works in this part of Monmouthshire. Limestone of the best quality is found in many parts of the county. There are also many stone-quarries from which excellent materials for building are obtained, and quarries of brescia for millstones, &c.

The old red sandstone formation is the prevailing rock in the east part of the county. Lead ore sometimes occurs.

The climate is considered very salubrious. The soil is various, but in the low country fertile. On both sides of the river Usk there is a broad belt of extremely productive and highly cultivated land. On the south there are large tracts of moor or marsh lands, the soil of which, in some parts, consists of a black peaty earth, and in others of a deep rich loam; other portions have an admixture of clay with loam. Towards the south there are likewise tracts of lighter soil, which is favourable to the growth of timber. There are numerous woods and coppices in which the oak and beach principally occur. Along the coast, the land being liable to be flooded by the sea, dykes have been made to defend it from these irruptions. In the western district and in the mountainous part of the county the soil is thin and sterile. The marshy tracts are principally under pasturage. In the uplands the husbandry is both arable and pastoral. The valleys and slopes of the hills have some few cultivated spots, intermixed with wood and pasture lands. The crops generally cultivated are wheat, barley, oats, peas, beans, and the artificial grasses; and although, from the nature of the country, great part is too mountainous and rocky for cultivation, yet more grain is raised than is required for the consumption of the inhabitants, and there is a surplus for exportation. The cattle and sheep have nothing peculiar, except that the sheep are very small. A great number of mules are bred, and are much used as beasts of burden.

Monmouthshire, in the names of its towns and villages, in the customs

and language of its inhabitants, is more a Welsh than an English county. In the reign of Henry VIII. it was included among the English counties; but it was not until the time of Charles II. that it was comprehended in the judges' circuits.

Monmouthshire is divided into six hundreds, containing 135 parishes, and six market-towns. The hundreds are, on the east from south to north, Caldicot, Ragland, St. Kenfreth.

On the west, Usk, Wentloog, Abergavenny.

The county sends two members to parliament.

Monmouth, an ancient borough, the county-town and place of election, is situated at the confluence of the Wye and Monnow, or, as it is sometimes written, Mennow, 130 miles west-by-north of London. The town consists of one long principal street, running from the Monnow in a north-east direction, and three or four smaller ones. It stands in a valley, surrounded by lofty hills, on which there are numerous patches of wood. The houses are mostly whitened: some of them are good detached dwellings, surrounded by orchards and gardens. On the west of the principal street, situated on an eminence, are the ruins of the ancient castle and fortress, which was the birth-place of Henry V.; this castle is supposed to have existed prior to the Norman conquest. There are also the remains of a Benedictine priory, consisting of a tower and spire, which now form part of the parish church. St. Thomas's church, now a chapel of ease to the parish church, is a small and very ancient structure, situated near the foot of Monnow Bridge. A new town-hall stands in the market-place. The county-gaol is a modern and well-arranged building. A free-school, a lectureship, and almshouses, are among the charitable institutions. Both the Wye and the Monnow are crossed by Bridges. Monmouth being situated on the Wye, a navigable stream, has some trade, and furnishes the surrounding country with supplies. The principal business of the town consists in converting pig iron into bars, and in making tin-plates. The iron is brought from Newport and Cardiff. The tin for coating the iron is brought in the form of blocks up the Wye. Bark and timber are exported to Bristol. A tramroad has been made to Coleford for conveying coals to the town, but it is said to be an unprofitable speculation to the projectors. Monmouth sends one member to parliament in conjunction with Usk and Newport.

Usk, a small market-town and borough on the east side of the Usk, and at its confluence with the small stream Otway, is about twenty miles above its junction with the Bristol Channel. The river is not navigable up to the town for any kind of craft. Usk is 10¾ miles south-west of Monmouth, and is a contributary borough to that place. It is likewise one of the polling places for the county. The town consists of several streets, but has no regular rows of houses: the dwellings are mostly detached, and each surrounded by its own little garden, orchard, and paddock. There is a large bridge over the Usk. On an abrupt eminence to the north-east of the town, stand the remains of an ancient castle, supposed to be of Roman or of Roman-British origin. The whole is enclosed in an area of considerable extent, surrounded by walls and flanked with towers. The church, which is very ancient, is of the Anglo-Norman style. There is one small manufactory of the Pontypool japan ware which does not employ more than four or five hands: it is the only one now remaining in this part of the country, the trade having removed to Birmingham.

Usk is supposed to be the site of the Roman Burrium, and in the vicinity of the town are several ancient encampments.

Newport, a borough, is situated on the Usk, about four miles from its mouth and 19½ miles S.S.W. of Monmouth, to which it is a contributary borough. It is a narrow, irregularly-built place, consisting chiefly of one long street on the west bank of the river, extending to an eminence on the south, where the ancient parish church is situated. The nave is all that remains of the original structure; the present tower was built by Henry III. The remains of a monastery are still to be seen near the bridge. Here was formerly a fortified castle, of which some few remains exist. The Roman military way, called Julia Strata, ran near this place. A handsome stone bridge of five arches crosses the river. Newport has a good haven, and possesses some trade. Iron and coal are brought from Pontypool, and coal from Crumlin by the canal. Tram-

roads connect Newport with the Rumney, Tredegar, Sirhowy, Ebwyvale, and Beaufort Iron Works, and with an extensive coal district. Cast and bar iron, bark, oak timber and coals, from these places, form the exports of the town. The imports are foreign timber and provisions from Ireland. This town is one of the polling places appointed for the county.

Caerleon is on the Usk, 17 miles S.S.W. from Monmouth. Caerleon is said to have been the ancient capital of Wales, and was the Isca Silurum of the Romans. Many Roman antiquities have been found here. Caerleon was, likewise, a place of considerable importance in the times of the Britons and of the Saxons. When Christianity was first established in this country, Caerleon became the metropolitan see of the Britons, and was, for a long period, famed for its splendour and the magnificence of its buildings. Geoffry of Monmouth relates that, at the time of the Saxon invasion, the university of this place contained 200 philosophers, who studied and taught the sciences At present the town is very inconsiderable, and consists of only two or three streets. In the vicinity are tin works: iron plates are also rolled, and bars, rods, and ship-bolts are manufactured. The tides in the Usk rise very high, a circumstance which has sometimes occasioned serious accidents here.

Pontypool, on a branch of the river Usk, is fifteen miles and a half south-west from Monmouth. The town consists of two principal streets, in which there are some neat houses and numerous shops. The parish church stands in an elevated situation, about a mile from the town. Iron and coal are exported from Pontypool, and there are extensive iron-works in and near the town: the art of coating iron with tin was invented and first practised here. Japan ware was long known as Pontypool ware, from the name of this town, where the art of English japanning originated.

Abergavenny is situated in a valley at the junction of the Usk and Gavenny, 12½ miles west of Monmouth. It is supposed to be the site of the Roman Gobannium, so called from the Gobannius or Gavenny. The town is long and straggling, with narrow streets. In its vicinity are the remains of a very ancient castle; the church also is a venerable structure. Besides the church, there are several meeting-houses for Dissenters, and a Catholic chapel. Abergavenny was once a fortified town, and part of the wall and the gate still remain. The river is crossed by a handsome bridge of fifteen arches. A small woollen manufactory is carried on in the town. The mountains around abound in iron ore and coal, and there are extensive iron-works in the vicinity of the town. The Brecon Canal passes near the town. The free-school was founded by Henry VIII.; who, at the demolition of the monasteries, gave the parish church of St. John to the school as a school-house: this building was taken down about 1751, and rebuilt. There are also Lancasterian and several Sunday-schools. Abergavenny is one of the polling places of the county.

Chepstow, a market-town separated from Gloucestershire by the Wye, is two miles above its confluence with the Severn, and twelve miles south of Monmouth. This town is well-built, with wide and paved streets: its situation is on a declivity, surrounded by beautiful and picturesque scenery. At the northern extremity of the town, on a high cliff rising perpendicularly from the river, stands an ancient castle, erected soon after the Norman conquest: it is still in part habitable, and was once a place of great strength and splendour. Part of the chapel of an ancient priory forms the present church. The cast-iron bridge, which connects this and the adjacent county, was constructed in 1816. Chepstow, being the port for all the towns on the Wye and the Lug, has considerable export and import trade. The exports consist of timber, bark, iron, and cider; the imports are wine, flax, hemp, planks, &c. Vessels of 600 tons burden are built here, and ships of 700 tons can come up to the town.

Monmouthshire contains many antiquities, such as castles, encampments, and religious establishments. The fine ruins of Tintern Abbey, 4½ miles north from Chepstow, are beautifully situated on the banks of the Wye. The most interesting part of the ruin is the abbey church, the whole shell of which is yet entire. The arches and pillars of the transept still remain in their original beauty; nearly all the columns are standing, and there is still great part of the eastern window left. The whole presents a most beautiful and

picturesque appearance. This monastery was originally founded for monks of the Cistertian order, in 1131, by Walter de Clare. At the dissolution the site was granted to Henry, second earl of Worcester, in which family it is at present vested. At the little village of Ragland, 6¼ miles south-west of Monmouth, are the ruins of the celebrated castle once the residence of the family of Somerset. It stands on an elevation at a short distance from the present village. From the architectural remains it is supposed that this castle is less ancient than any other in the county, and not earlier than the reign of Henry V. This fortress was defended with great bravery by the marquess of Worcester, in the time of the civil wars; but he was at last forced to capitulate, and the castle was dismantled by order of parliament. The present remains, including the citadel, occupy a space of about a mile in circumference. The citadel was of an hexagonal form, each side 33 feet long; the walls of hewn stone are 10 feet thick, defended by bastions, surrounded by a moat, and connected with the castle by a drawbridge. The grand entrance to the castle was flanked with two massive hexagonal towers, which are still standing, overgrown with ivy: there is also a third tower, not so elevated.

The Forest of Went-Wood, in the hundred of Caldecot, was formerly of great extent, and occupied a wild and dreary tract of country. It now comprehends only 2170 acres, covered with timber-trees and underwood: it is the property of the duke of Beaufort. This forest was formerly encompassed by six castles :—Dinham, Penhow, Pencoed, Lanvaches, Lanvaire, and Castrogy Castles. Of all these there are only very inconsiderable remains, except of Pencoed and of Lanvaire, which are about 1½ mile apart from each other. The remains of the former consist of a gateway flanked by two pentagonal turrets, a handsome vestibule in the pointed style, and many traces of the size and magnificence of the apartments. The remains of Lanvaire Castle consist of three round towers, in a very ruinous state, fragments of walls from 7 to 10 feet thick, and several circular-headed windows. This fortress is of great antiquity. On the western verge of the forest stood Skigil or Struguil Castle, another fortress likewise of great antiquity; it has but few remains, comprising some walls and a small octagonal tower. At a small distance from the village of Caldecot, 4½ miles south-west of Chepstow, are the magnificent ruins of Caldecot Castle. The most ancient part, containing the circular bastions, is supposed to have been commenced by Harold, but the greater part was built by the Normans. The principal remains are a grand arched gateway, and five or six dilapidated towers, and the vestiges of several apartments, particularly the baronial hall.

Caerwent, 13¾ miles south of Monmouth, now a small village, was formerly a Roman station, and is still partially encompassed by the original Roman walls; numerous Roman antiquities have been discovered here.

On the road between Monmouth and Chepstow, about six miles from the latter place, are three massive stones standing at a small distance from each other: the height of the largest is 15 feet, and its circumference 14 feet at the base. They are called Harold's stones, and are supposed to have been erected by him in commemoration of a victory gained over the Britons.

Population of the market-towns of Monmouthshire:—

Monmouth (borough) ..	4916
*Abergavenny	4230
Usk	1775
Caerleon (town)	1071
Newport (town)	7062
Chepstow	3524

Authorities.

Hassall's General View of the Agriculture of Monmouthshire.

Leigh's Guide through Wales and Monmouthshire.

Roger's Memoirs of Monmouth.

Heath's Historical and Descriptive Account of the Ancient and Present State of Chepstow.

HEREFORDSHIRE

is an inland county on the borders of Wales. It is bounded on the north-west by Monmouthshire; on the west by Brecknockshire and Radnorshire; on the north by Shropshire; on the east by Worcestershire; and on the

* See first note to p. 298.

south-east by Gloucestershire. Its boundaries are in some parts very irregular, but its general figure is elliptical, having its greatest length from north to south 38, and from east to west 33 miles. Its area is 860 square miles.

The general appearance of the county is that of an undulating and richly-varied surface. The elevations never rise to the height of mountains, though they are sufficiently high to produce a variety of most pleasing scenery. The ground is the highest on the east and west, but especially on the east towards the Malvern Hills*, part of which are included within the boundary of this county: the greatest elevation is 481 yards above the level of the sea.

The principal rivers are the Wye, the Frome, the Lug, the Leddon, the Team or Teme, and the Arrow. The Wye enters the county at Hay on the west, and, taking a very winding course towards the east, passes by Hereford. It then takes a circuitous southern course past Ross to the borders of Gloucestershire into Monmouthshire. The upper basin of the Wye comprehends the whole of this county. The Frome rises near Wolferlow, a little above Bromyard, and, taking a south-west course, joins the Lug near Hampton Bishop. The Lug rises in Radnorshire, and, entering this county at Knill, goes by Aymestry on to Leominster. The Arrow likewise has its source in Radnorshire, and flows by Kington and Pembridge to Leominster, where it joins the Lug; the united stream then taking a south-east course meets the Wye at Mordiford near Hereford, where all unite in one broad full stream. The Leddon rises a little on the north of Evesbatch, passes Evesbatch near Ledbury, and soon enters Gloucestershire, where, after a winding course, it falls into the Severn at Gloucester. The Team enters this county from Shropshire, a short distance from Brampton Bryan, and flowing eastward runs into Shropshire; but near Ludlow it again enters into this county, and flowing south and then east enters Worcestershire three miles E. of Tenbury, and after considerable winding is again for a short space the boundary of this county above and below Whitborne.

The Wye is navigable as far as Hay, the whole length from which place to its junction with the Severn is 99½ miles. From Hay to Hereford it is thirty miles; from Hereford to the mouth of the Lug, 7½; thence to the town of Ross, 21½; thence to Lidbrook, 8; thence to Monmouth, 12; and thence to the Severn, 20½ miles. Its course is very winding. The Lug is navigable for a short distance.

A canal has been commenced to join Hereford with Gloucester. Acts were passed for this purpose in 1791 and 1793, but it has yet only been completed as far as Ledbury from Gloucester, a distance of eighteen miles, with a rise to Ledbury of 195½ feet. This navigation was opened thus far in 1798. A canal was projected in 1791 to be cut from Kington, in this county, by Leominster, to Stourport in Worcestershire; the whole length to be 46 miles: but it appears that only 32 miles have been completed, that is, 20 miles between Leominster and the Mamble coal-works in Worcestershire, which length was finished in 1796; and in the year following the entrance into the canal from the Severn was opened.

The Hay railway, for which an act was passed in 1811, commences not far from Brecon, in the Brecon canal, passes by Hay, and terminates at Eardisley in this county, a distance of twenty-four miles; at Eardisley it is joined by the Kington railway, which passes by Almeley and Kington, and terminates at the lime-works near Burlinjob in Radnorshire. This railway is about fourteen miles long. The Hereford and Abergavenny railway has already been described in the account of Monmouthshire.

The land in this county is in general in the highest state of cultivation. The soil is chiefly argillaceous earth mixed with marl and calcareous matter, the "red-earth" called by farmers "apple-tree soil," and so called because it is extremely favourable to the growth of apple-trees. It is the prevailing soil of this county. The prevailing sub-soil is the old red sandstone formation, except in a few detached parts on the west, where it is limestone. The principal crops are wheat, barley, oats, beans and peas. There are numerous hop-grounds. Wheat is produced most plentifully about the central parts of the county, and towards the east between Hereford and Ledbury. The greatest crops of oats are raised on the high grounds both on the east and

* See p. 63.

west sides of the county; and barley about Ross to the south-east. Hops are principally cultivated in the districts about Hereford, Leominster, Weobly, Bromyard and Ledbury, and on the borders of Worcestershire. Orchards abound in every district, and cider and perry are made in large quantities, and form considerable articles of export. Cider forms the chief beverage of the agricultural labourers, who drink it in enormous quantities, especially in harvest-time. Coppice wood is very plentiful; the oak, the elm, the poplar, and the willow are the chief trees. The richest pasture grounds, which are on the banks of the rivers, fatten a considerable quantity of cattle. The Ryeland sheep, which derive their name from a district to the south, are distinguished both for the excellent quality of their wool and their flesh. They are small, white-faced, and without horns.

In the vicinity of Ledbury, and at Snodhill, near the borders of Brecknock, there is limestone susceptible of polish, and assuming the appearance of beautifully variegated marble; red and yellow ochres, pipeclay, and fuller's earth, are likewise among the mineral productions of this county; iron ore is found on the borders of Gloucestershire, but not in sufficient quantity to repay the expence of working it. Deep beds of gravel occasionally occur in the vicinity of Hereford.

Herefordshire is divided into 11 hundreds, containing 282 parishes, one city and seven market-towns. Beginning from the east on the south are the hundreds of Grey Tree, Wormelow, Webtree, Ewyas Lacy. In the centre, Radlow, Broxash, Grimsworth, Stretford, Huntington. On the north, Wolphy, and Wigmore. This county sends three members to Parliament.

Hereford is an ancient city situated nearly in the centre of the county, on a slope rising from the north banks of the river Wye, one hundred and thirty-six miles W.N.W. of London. The date of its origin is unknown, but it must have been much earlier than 676, as it is then mentioned in history as a place of importance. It was the seat of a bishop, and the capital of the Mercian kingdom as early as the reign of Offa. Hereford is the election town for the county; and it likewise sends two members to Parliament.

It contains many streets of tolerable width, and is on the whole well built; the houses are mostly of brick. The principal public buildings are, First, the Cathedral, built in the usual form of a cross, which is still in part a very ancient structure. It was destroyed by fire in 1055, and rebuilt in 1072, and many alterations have been made at subsequent periods. In 1786 the tower forming the west front gave way and fell to the ground, destroying all the parts immediately beneath it. The west end has since been rebuilt, and the whole Cathedral repaired under the direction of Mr. Wyatt. The extreme length of the Cathedral is 325 feet; extent of the great transept, 100 feet; breadth of the nave and side aisles, 74 feet; height of the body of the church, 91 feet; height from the area to the vaulting, 70 feet. Second. The bishop's palace. Third. The county gaol, which is well arranged and conducted. Fourth. The town-hall, a very old building of wood. Fifth and sixth. The guild and Shire halls. The Shire hall is a handsome building, with well arranged courts for holding the assizes and sessions; a fine room for public meetings, assemblies, &c.; and vaults underneath for depôts and stores. The portico is much admired. Seventh and eighth. A theatre and a public library. Ninth. A general infirmary. The charitable institutions, hospitals and alms-houses, are very numerous. There is a free grammar school, and a savings' bank. There are four parish churches, and five places of worship for dissenters. A triennial musical festival is held in the Cathedral.

Few manufactures are carried on in this town: in 1834 an iron foundery was established. There was formerly a considerable glove trade, but in this Hereford has been successfully rivalled by Worcester. The Wye is navigable by barges throughout this county, except when the stream is too strong or too shallow, to both of which irregularities the river is very subject, according to the season.

The railroad from Hereford to Abergavenny, among other advantages, secures a steady supply of coal to the city. Slate and coal are brought into Hereford; cider, hops, oak bark, wool, wheat and timber, are the exports. Hereford was a fortified place of considerable importance among the Saxons; but of its ancient wall and castle only a small part of the former remains. Castle-green, on

the east of the city, a pleasant public walk, is on the site of the ancient castle. There is a stone bridge of six arches over the river, supposed to have been erected in the fifteenth century. Garrick was a native of Hereford.

The borough of Leominster is situated in a fertile valley on the river Lug, twelve miles north of Hereford. It sends two members to Parliament, and is one of the polling places for the county. Leominster consists of one long principal street, running nearly from north to south, and four or five others intersecting it at right angles. Some few old buildings are of timber and plaster, painted white and black, and ornamented with grotesque carvings; most of the houses however are modern and built of brick. The church, a very ancient structure, is an irregular building. There are four other places of worship for dissenters. Among the public buildings and institutions are: The town-hall, a curious building of timber and plaster, standing on twelve oak timbers, erected in 1633; the corn-market, alms-houses, a free-school, two charity-schools, two Sunday, and several boarding-schools, a public reading room, and an agricultural society. Gloves are still manufactured in the town, but the trade has declined; coarse cloth was also dyed as well as manufactured here, but the trade is gone. There is a considerable amount of business done in tanning. There was formerly a linen manufactory, but it was discontinued some years ago. The town owes its consequence principally to its being the market for the produce, consisting chiefly of wool, wheat, cider and hops, of a district extending about seven miles round. The horse, cattle, and sheep fairs are generally well attended Coal is brought from Shropshire, partly by the Leominster canal, which runs close to the town; but the best comes from the Clee Hills, by waggons.

Kington, a market-town on the Arrow, is seventeen miles N.W. of Hereford. It is a small, cheerful, and healthy place. A manufacture of cloth is carried on here to some extent. There are a free-school and a charity-school. The church is a very irregular building. In the neighbourhood, on the summit of Bradnor mountain, are the remains of a square encampment. This is one of the polling places for the county.

Pembridge, now an inconsiderable place, thirteen miles N.N.W. of Hereford, gave its name to the ancient family of Pembridge, ancestors of the Lords Chandos.

Weobly, a market-town, and a nondescript kind of ancient borough, ten miles N.W. of Hereford, is noted for the excellence of its ale. Many of the houses are well built, and of modern erection, owing to the town having suffered by fire some years ago. The church is large, and contains two or three ancient burial chapels. Weobly sent two members to Parliament, till it was disfranchised by the Reform Act. It has two good charity-shools. An ancient castle formerly stood on the south of the town, the site of which is now a bowling-green.

Ross, a market-town, twelve miles S.E. of Hereford, stands on an eminence on the banks of the river Wye. The streets are narrow, and the market-house is in a very decayed state. The church is rather a handsome structure. Ross is one of the polling places.

Ledbury, twelve miles and a half east of Hereford, situated one mile east of the river Leddon, chiefly consists of two streets, crossing each other at right angles. Its trade has very much increased since its direct communication with Gloucester, by means of the canal which has been carried from Gloucester as far as Ledbury. There are a free-school, and a charity-school, and several alms-houses, &c. Ledbury church is a large and fine building, of Saxon origin. It consists of a nave, side aisles, and chancel; a chapel dedicated to St. Catherine; and a detached tower, surmounted by a handsome spire. The chancel appears to have formed part of the original Saxon buildings, and the west front of the church has a curious Saxon doorway. Ledbury is one of the polling places for the county.

Bromyard, near the river Frome, is thirteen miles N.E. of Hereford. It stands in the midst of fine orchards. The houses of the town are mean and ill built, but the church is a handsome building of ancient date. Bromyard is a polling place for the county.

There are many antiquities in this county. The Roman Watling-street entered it from Shropshire, and ran from north to south through the county to Abergavenny, in Monmouthshire. This road is still visible in this county in a few places. Three other Roman roads likewise intersected the county. Magna, now Kenchester, and Ariconium, near Ross,

two principal stations in the itinerary of Antoninus, are in Herefordshire, as well as the lesser post of Bravinium or Brandon. There are also traces of encampments, and the ruins of several castles. The massive ruins of Goodrich castle, about 3½ miles S.W. of Ross, still show that it was a place of immense strength. It was demolished by order of Parliament in 1647. About a quarter of a mile to the south of the castle are the remains of an ancient priory. Clifford castle, seventeen miles west of Hereford, was built before the Conquest. The ruins are chiefly massy fragments of walls, which overhanging the high cliff near the Wye, form a very picturesque object. There are likewise remains of Barrington castle, near Ashton, Bransill castle, near Ledbury, Crassfield Abbey, Dorstan castle, Wilton castle, near Ross, &c.

Population of the city and market-towns of Herefordshire :—

*Hereford (City)	10,280
Bromyard	1,434
Leominster	4,300
Pembridge	1,293
Kington	2,147
Weobly	819
Ross	3,078
Ledbury	3,852

Authorities.

Duncombe's History of Herefordshire.

Britton's Account of Hereford Cathedral.

Clark's General View of the Agriculture of Herefordshire.

Price's History of the City of Hereford.

WORCESTERSHIRE

is bounded on the east by Warwickshire, on the north by Staffordshire and Shropshire, on the west by Herefordshire, and on the south by Gloucestershire. It is a very irregular quadrangle, and has on every side detached parts surrounded by other counties, and in some places there are portions of other counties insulated within it. On the S.E. it is scarcely possible to define the boundaries between this county and Gloucestershire and Warwickshire, without the aid of a map; on the north the same irregularity occurs as to the borders of Staffordshire and Shropshire; and Dudley is a large detached piece quite surrounded by Staffordshire. Its greatest length from north to south is 34, and from east to west 30 miles. Its area is 729 square miles.

The general appearance of this county is rich and beautiful, being finely diversified with hill and valley, and richly wooded. There is scarcely any tract so steril as to be destitute of verdure, and in most parts the cultivation is good. Almost the entire central and southern part of the county is occupied by the vales of Worcester and Evesham. The vale of Worcester is bounded on the S.W. by the Malvern Hills, which form part of the boundary between this county and Herefordshire; the east side of the hills being in Worcestershire and the west in Herefordshire. They are about 9 miles in length, and for two miles at the northern extremity, they are entirely in this county; another small detached portion is entirely in Herefordshire. The Malvern Hills are between one and two miles in breadth: on the eastern side the slope is much more abrupt than on the western; but on both sides they present a rich and beautiful appearance*. Connected with these are the Abberley Hills, which occupy the N.W. part of the county, and bound on the west the vale, which stretches on the north into Shropshire and Staffordshire. On the east side of the vale are the Lickey or Hagley Hills, which, commencing at Hagley, continue in nearly a S.E. direction to Headless Cross, whence they stretch nearly south along the boundary of the county, and for a short distance enter it again, and at length slope off near Evesham. Connected with the Cotswold Hills of Gloucestershire are the Bredon Hills, in the S.E. of the county, a mile or two south of Pershore: these hills separate the vale of Gloucester from that of Evesham. A ridge of high ground beginning a little to the east of Worcester and stretching nearly south between the Severn and the Avon, separates the vales of Worcester and Evesham, the former of which is in fact part of the vale of the Severn; and the second, of its tributary, the Avon.

* These are the populations of the boroughs and townships of the respective places, not including the other townships in the parishes.

* See p. 63.

The principal rivers in Worcestershire are the Severn, the Avon, the Stour, and the Teme. The Severn enters the county near Bewdley from Shropshire, and taking nearly a southerly course, runs through the county in its length, passing by Stourport, Worcester and Upton, and finally entering Gloucestershire a little before it is joined by the upper Avon. The Severn is navigable for vessels of 80 tons as far as Worcester, and for 60 tons as far as Bewdley bridge. The whole navigation of this river is 160 miles from its mouth without the assistance of any locks. The Upper Avon enters on the east from Warwickshire, and thence takes a south-west course to Evesham, round which town it flows; it then runs in a general west direction with many bendings by Pershore, and then after a very winding course in nearly a south direction, passes into Gloucestershire. The Stour enters the county from Staffordshire, passes through Kidderminster, and joins the Severn at Stourport. The Teme, which has its source in Shropshire, enters this county near Tenbury on the north-west, whence it takes a very irregular course to the south-east, and joins the Severn about a mile and a half below Worcester. The mass of the county of Worcester is within the basin of the Severn, of which it occupies one of the finest parts.

Several canals intersect this county, and water communication is thus kept up with every part of the kingdom. The Staffordshire and Worcestershire, or as it is more commonly called, the Stourport canal, which opens into the Severn at Stourport, meets the old Birmingham canal a little north of Wolverhampton in Staffordshire, and thence communicates with the Grand Trunk canal. In its course, which is forty-six miles, it is carried by aqueducts over the rivers Trent, Sow, Stour, and two or three other smaller streams, and by a tunnel under the town of Kidderminster; there are likewise two other tunnels, two large reservoirs, and a number of bridges, and small aqueducts on the line of this canal. This canal was begun in 1766. The Dudley canal proceeds from the Worcester and Birmingham canal about four miles S. of Birmingham, and joins the Staffordshire and Worcestershire canal a little west of Stourbridge. Its whole course is thirteen miles, and in this short distance it passes under three tunnels, the aggregate length of which is considerably more than four miles. About a mile north of Stourbridge a branch goes to that town. The Leominster and Kington canal runs through a small portion of the north-west part of this county, where there are coal mines. It has already been described in the account of Herefordshire. The Droitwich canal runs from the Severn to the Salt works at Droitwich, in the distance of five miles ascending 56½ feet by eight locks. The Worcester and Birmingham canal connects the two towns so named, and joins the Severn at Worcester. About fifteen miles from this junction at Tardebig, three miles E.S.E. of Bromsgrove, it runs through a tunnel 500 yards in length; and in the remainder of its course there are three other shorter tunnels. These tunnels are 18 feet high, 18½ feet wide, and have 7 feet 2 inches depth of water. The Birmingham and Stratford canal communicates with this at King's Norton.

At Malvern there are medicinal wells, and in the parish of Kidderminster several chalybeate springs.

The principal part of Worcestershire is occupied by the new red sandstone formation; the higher ranges consist of rocks of an older formation. The Malvern Hills are composed of granite, syenite, and syenitic greenstone. The Lickey Hills are a mass of quartz, which also occurs in the Malvern Hills. Limestone occurs in the Abberley Hills on the N.W. of the county; and at the S.E. corner, in Cleeve Prior parish, there are quarries of very good stone; and still farther south there are quarries in the Broadway Hills, of a stone of a reddish colour. Freestone and a calcareous flagstone are quarried in many parts. The N.W. corner of the county is for a small space occupied by part of the Bewdley coal basin, and coal pits are sunk there at Mamble and at Bayton. The detached division of Dudley forms part of the Dudley coal basin, in which the beds of coal alternate with strata of ironstone, and coal is raised and iron made in large quantities. Brick earth abounds in Worcestershire. At Droitwich there are rich springs of brine, and also at Stoke Prior near Bromsgrove; beds of rock salt were discovered at Stoke Prior in 1829.

The climate of Worcestershire is

considered mild and salubrious, and in the vales vegetation is very early. On the Malvern Hills the air is extremely mild as well as pure; the same character prevails on some of the elevated parts in the N.W.; but on the Lickey, the Bredon, and Broadway Hills, the climate is rather colder.

The soil of this county is various. In the northern parts it consists of rich loamy sand, united with a small proportion of gravel. Towards the east, light sand and peat earth are sometimes found, but the prevailing soil there is a strong clay. Between Worcester and the Vale of Evesham the soil is partly red marl, and partly strong clay with some sandy loam, lying on a bed of limestone. In the Vale the upper soil is particularly deep; it is a dark-coloured earth, resting on a substratum of clay in some parts, and of gravel in others. Beyond this part to the southern boundary limestone prevails on the upper lands, and a rich loam on the lower. Between Worcester and Malvern the predominating soil is clay mixed in different proportions with gravel. On some parts of the banks of the Severn and its tributary streams there is a rich alluvial soil, extremely favourable to vegetation. Wheat is very extensively cultivated and yields a good return, as well as barley and beans. Hops in some districts form a principal crop; and orchards of apple and pear trees for cider and perry are numerous. Perry is in some parts so plentiful as to form the common drink of the peasantry. Cattle and sheep are fattened on the rich pasturage of this county.

This county was divided into hundreds, very irregularly shaped, and strangely intermixed, till by an Act which took effect in February, 1831, these divisions were altered, and new ones made. Worcestershire is accordingly now divided into ten parts, called divisions; and these again are politically separated into the eastern and western divisions, each of which sends two members to Parliament.

The western division comprises, divisions — Worcester, Kidderminster, Hundred House, and Upton.

The eastern division comprises, divisions- Droitwich, Northfield, Pershore, Stourbridge, Dudley, and Blockley.

Worcestershire contains 197 parishes, in which there are one city, and eleven market-towns.

Worcester, the chief town of the county, and one of the most ancient cities in the kingdom, is situated on a gentle slope on the east bank of the Severn, and is sheltered from the east by a finely wooded hill; on all the other sides it is open, being in what we may call the great plain of the Severn. Its distance from London is 111 miles N.W. by W. This city was formerly surrounded by a strong wall, of which some slight vestiges remain. The streets are in general wide, well-paved, and lighted; and the principal streets are very regular and handsome. The cathedral, which stands on the south side of the city, is characterized by extreme simplicity and chasteness of architecture. It was founded as early as 680, but the building was subsequently destroyed by fire. The principal part of the Cathedral, as it now stands, was erected in the thirteenth and fourteenth centuries. It is in the usual form of a double cross, and its proportions are on a large scale. The length is 514 feet; breadth 78 feet; height 68 feet. The principal tower rises from the intersection of the nave and transepts to the height of 200 feet*. The bishop's palace, which is situated near the Cathedral, on the banks of the Severn, was originally a fine building, but it at present exhibits an incongruous mixture of ancient and modern architecture. There are scarcely any remains of the ancient castle. Nine parish churches stand within the walls, and two without: besides which there are chapels for dissenters. The market-place is extremely convenient, and the market-house a handsome building. The hop market is a large quadrangle, surrounded on three sides by ranges of large warehouses. The guildhall, which stands on the west side of the High-street, is a handsome modern structure. The new county gaol is built and arranged on Howard's plan. The city gaol, which was erected in 1824, at an expense of 12,500*l.*, contains wards, day-rooms, and yards for the prisoners, with a chapel and treadmill. The House of Industry, or poorhouse, built in 1794, is a large, well-arranged, and convenient, building, situated on the east side of the town. There are various charitable institutions; the principal are—the Infirmary,

* For a more particular description of this cathedral, see "Dugdale's Monasticon Anglicanum."

situated on the N.W. of the town, which is a handsome building, completed in 1770; Berkeley's Hospital, founded by Judge Berkeley, for 12 poor men; St. Oswald's Hospital, a very old establishment, which supports 16 poor men, and 12 women; Moore's Hospital, which educates and maintains 10 blue-coat boys; Trinity College, founded by Queen Elizabeth, which supports 29 poor females.

The King's, or College-school, was founded by Henry VIII., for forty poor scholars; 10 of whom are appointed by the dean, and three by each of the 10 prebendaries of the cathedral church. There is likewise a Free Grammar-school, founded by Queen Elizabeth, for the classical education of 12 boys. Butler, author of "Hudibras," was educated at this school.

There are likewise a Lancasterian and other charity-schools. The Severn is crossed by a handsome bridge of five arches.

One of the principal manufactures of Worcester is that of porcelain, for the making of which there are several large establishments. The beauty of Worcester china is well known in most parts of the world, it being a considerable article of trade. Glove making, which employs the largest number of the working classes, is recommended by the facility which it allows to those engaged in it to work in their own houses, and at the times most suitable to them. There is a very extensive demand for Worcester gloves both for home consumption and for exportation. The trade of this city is very considerable, not only in the articles of its more immediate produce, but also owing to the great advantages of its central situation for inland navigation.

The hop-market of Worcester is the greatest in the kingdom: cider and perry form considerable articles of export.

This city is represented in parliament by two members: the limits of the parliamentary borough were considerably enlarged by the Boundary Act. It is the election town for the western division of the county. Under the Municipal Corporation Act it is divided into six wards, with twelve aldermen and thirty-six councillors.

Kidderminster, a market-town, situated in the north part of the county, is thirteen miles north of Worcester. It stands on both sides of the Stour, which divides it into two unequal parts. It is a regular and compact town, with streets well paved and clean: the principal street is a mile long, and forms part of the road from Bewdley to Birmingham. The old church, which is a handsome Gothic building, stands on an eminence at the end of a street leading from the market-place. There is also a new church, called St. George's. The town-hall, which is in the centre of the market-place, is a large brick building, applied to many purposes; part of it serves as a prison, and the ground-floor is the market-house. A free-school adjoins the old church, besides which there are eight charity-schools. There are also a dispensary, twelve alms-houses, and twenty-five friendly societies. The Staffordshire and Worcestershire canal passes within a very short distance of the market-place, near which are a wharf and warehouse: numerous boats are continually passing along this canal. The manufactures of Kidderminster are considerable, and the town has been noted as a manufacturing town since the reign of Henry VIII., when broad-cloths were made here. Linsey-woolsey next became the staple article of manufacture; after which worsted tammies and flowered stuffs were introduced; next followed crapes, bombazins, and poplins; but the business which has become most important is the manufacture of Brussels carpets, which was introduced here from Tournay in 1745. About fifteen years afterwards, carpets with a cut pile, now distinguished as Wilton carpets, were produced in this town. What are called Kidderminster carpets are now made chiefly in Scotland and Yorkshire; and the greatest quantity of what is called Brussels carpeting is made at Kidderminster, where this branch of industry employs about 5000 persons. This town sends a member to parliament: the boundaries of the parliamentary borough were enlarged by the Boundary Act. Under the Municipal Corporation Act it is divided into three wards, with six aldermen and eighteen councillors.

Bewdley, a market-town, thirteen miles from Worcester, is situated on a declivity overhanging the western bank of the Severn. The town is represented in Parliament by one member. It mostly consists of two or three tolerably wide streets. In the centre of the town stands

the church, besides which there are several chapels for dissenters. This town, standing on the Severn, a navigable river, was of more commercial importance than it has been since the introduction of canal navigation. Its market, its retail trade with the surrounding country, its situation on the river and some small manufactures, give employment to the population.

Stourport, a market-town ten miles north of Worcester, owes its origin to the formation of the Staffordshire and Worcestershire canal. Previous to the commencement of this undertaking there was no appearance of a town, and the surrounding country was nothing but a barren heath. Stourport is now, however, a place of great activity and business; it is at the junction of the Severn and the Stour, and contains also the basin of the canal where it joins the Severn. This town being thus most favourably situated for inland commerce, and in the very heart of the country, presents the appearance of a maritime port. Numerous loaded barges arrive both up and down the Severn; the canals on the north and east exhibit the same busy scene, and goods are here passed from one barge to another according to their particular destination. To facilitate these transactions additional basins have been made, with warehouses near them. On the south, vessels arrive from Bristol, Gloucester, and Worcester; smaller boats come from Coalbrook Dale, Shrewsbury, and Welsh Pool; others from Birmingham, and various places on that line; while others again are sent to the Staffordshire potteries, to Liverpool, Manchester, Chester, and Derby. A very extensive trade is carried on in coals, from the Staffordshire and Worcestershire collieries. The town is handsome and well built. There is a chapel of ease. The Severn is here crossed by a bridge, which consists of a single arch of iron of 150 feet span and about 50 feet above the surface of the water. Stourport is a polling place for the county.

Tenbury, a small market-town on the Teme, is seventeen miles west by north of Worcester. The Kyre, a small but rapid stream, falls into the Teme at the upper end of this town, which lying low, is often liable to sudden inundations. This town is rather of a mean appearance, but contains a few good houses. The church is a mixture of ancient and modern architecture. The trade of the town is chiefly in hops and cider, great quantities of which are produced in the neighbourhood. Turning and glove-making are also carried on. Both the rivers are crossed by handsome bridges. The Leominster Canal runs at a short distance north of the town. Tenbury is one of the polling places for the county.

Malvern, a village seven miles S.S.W. of Worcester, is beautifully situated on the eastern declivity of one of the Malvern hills, and is a place of resort on account of its medicinal springs*. The village is neat and well built, and several additions have been made for the accommodation of visitors. There was once a celebrated monastery here, founded in the time of Edward the Confessor. The church, which is still a noble structure, is all that remains of the former magnificent building.

Upton, a market-town on the west bank of the Severn, is 8½ miles south of Worcester. The town is regular, and contains some tolerably well-built houses. The church is a good building. Considerable traffic is carried on along the river; and there is a wharf and harbour for barges. The Severn is crossed by a stone bridge of six arches. Upton is one of the polling places for the county.

Droitwich, a market-town and borough, situated on the small river Salwarp, six miles N.N.E. of Worcester, is the election town of the eastern division of the county, and is represented by one member in parliament. The limits of the parliamentary borough were extended by the Boundary Act, and a population of about 2000 was thus added to the 3000 of the municipal borough. Droitwich is a very ancient town, having been a populous place in the time of William the Conqueror. It consists of three or four principal streets, and contains three churches, one of which is of great antiquity. The population are principally employed in the preparation of salt from the copious brine-springs.

* The Malvern water, though considered medicinal, is in fact chiefly characterized by its extraordinary purity. Acids or alkalies mix with it without altering its transparency or without any precipitation: the water contains a small portion of carbonic acid gas, and iron laid in the water becomes corroded. It is supposed that the mild temperature and salubrity of the air, together with change of scene, are more efficacious to the invalid than any specific properties of the waters.

The springs are about 110 feet below the surface: the water or brine contains one-fourth* of its own weight in salt. The average annual quantity of salt made and sold here is about 30,000 tons, nearly one half of which is sent abroad. The salt trade has very much increased since the repeal of the duty on salt. Up to the year 1655 the salt-springs within the borough were a monopoly in the hands of the burgesses, but the monopoly was overthrown in a suit at law. Individuals now sink pits at their pleasure in any part of the borough.

Evesham, a market-town and borough fourteen miles south-east of Worcester, is represented in parliament by two members. The limits of the parliamentary borough were enlarged under the Boundary Act. The town is delightfully situated in the beautiful vale of Evesham, on rising ground in a bend of the river Avon, which surrounds it on all sides but the north. Evesham is a place of great antiquity. There are records of the foundation of a richly endowed monastery here, so early as the year 709, some traces of which still remain in a large richly decorated, but mutilated gateway. Near this town was the memorable battle fought in which Prince Edward rescued his father Henry III., and defeated Simon Montfort. Evesham principally consists of four or five regular wide streets, with well-built houses. There are three churches, a free grammar-school, a charity-school, and an alms-house. A beautiful old Gothic tower 117 feet high, which is not connected with any church, contains the bells. A stone bridge of seven arches connects this town with that of Bengeworth on the opposite banks of the Avon. Evesham has a commodious wharf for barges, but the trade is small. There is a ribbon manufactory in a declining state.

Dudley is a market-town, 8½ miles W.N.W. of Birmingham, and is situated in that isolated part of the county of Worcester which is surrounded by Staffordshire. Dudley is represented in parliament by one member. The town, which is large, consists of several wide well-paved streets, which contain some very good houses. At each end of the principal street is a church. There are a well-endowed free grammar-school, three or four large charity-schools, several smaller ones, and many Sunday-schools, and other public charities. In one of the charity-schools, founded in 1634, Baxter, the pious non-conformist, was the first master. The neighbourhood abounds in coals, ironstone, and limestone, which furnish employment to a large proportion of the inhabitants. The manufactures are iron, nails, glass, and fire-irons. In 1831 there were 500 men in this parish employed in the coal-mines, 570 as nailers, and a great number in the iron-works. On the north of the town, standing on a lofty hill, are the extensive remains of an ancient castle, built about the year 700; the keep is still entire, in which is the chapel with two windows rich in tracery. Underneath the castle ruins there are now immense quarries of limestone, forming rude caverns of vast extent, in which numerous fossils have been discovered. At a little distance from the castle are the ruins of a priory, founded in 1161, by Gervase Paganell.

Stourbridge, a large populous market-town on the borders of Staffordshire, is eighteen miles N. of Worcester. It stands on a gentle declivity on the banks of the river Stour, over which there is a bridge. The streets are irregularly laid out, but the general appearance of the town is handsome. Besides the church, which is a modern building, there are several chapels for dissenters. There is a well-endowed free-school and a theatre. The manufactures of this town are various and extensive: those of glass, iron, and bricks are the principal. The clay of which these bricks are made is peculiarly fitted to resist the action of fire; and Stourbridge bricks are the most esteemed of any made in England for the construction of ovens and furnaces. In the neighbourhood of the town there are coal and iron mines, and in one part a particular kind of sand is found 150 feet below the surface of the ground, which is used in the manufacture of glass, for which purpose great quantities are annually raised. The trade and prosperity of this place have been much promoted by the different lines of inland navigation which have been

* Brine, fully saturated, contains 33¼ per cent. of salt. In order to obtain the salt in a state of dryness, the brine is pumped from the springs into reservoirs, and is thence discharged into large boilers, where, by the application of heat, the water is driven off, and the salt at the bottom of the pans is collected, dried in stoves, and is then fit for use.

formed in this part of the country, and with which Stourbridge communicates by a branch from the Dudley canal. Stourbridge is one of the polling places for the county.

Broomsgrove, a market-town, twelve miles N.N.E. of Worcester, is situated in a rich and well-wooded valley, at the base of the Lickey Hill, which contains the sources of various streams, some of which flow to the basin of the Severn, and others to that of the Trent. The town consists of one good street, and several others of a very inferior kind. The principal street, which is about a mile in length, contains some good houses, and is paved and lighted by gas. The church stands on an eminence, and has a handsome tower and spire, altogether 189 feet high. There are also three chapels for dissenters. There are alms-houses and a free-school, founded by Edward VI. The inhabitants are principally employed in the manufacture of nails and buttons. In the parish of Stoke Prior, adjoining that of Broomsgrove on the south, extensive salt and alkali-works have, within the last few years, been established by the British Alkali Company. Beds of salt of great thickness were discovered here in 1829, in the course of sinking a pit in search of brine. These beds have been excavated to a considerable extent; but at present the supplies for making refined salt are obtained from a natural brine-spring which has communicated with the excavations*.

Redditch, a hamlet in the parish of Tardebig, on the borders of Warwickshire, is noted for its needle manufactory. In the whole parish of Tardebig, 360 men are employed in making needles and fish-hooks. Pershore and Shipston are polling places for the eastern division of the county.

Population of the city and market-towns of Worcestershire:—

†Worcester..........	18,610
‡Droitwich (B).......	2487
Broomsgrove (P).....	8612
§Halesowen (P)......	11,839
Dudley (P)..........	23,043
Shipston-upon-Stour (P)	1632
Stourbridge (T).....	6148
Kidderminster (P)...	20,865
Bewdley (B)........	3908
Stourport (T).......	
Tenbury (P)........	1768
Upton (P)..........	2343
Pershore (T)........	2080
Evesham (B).......	3991

Authorities.

Nash's Collections for the History of Worcestershire.

Pomeroy's General View of the Agriculture of Worcestershire.

Green's History, &c. of Worcester.

WARWICKSHIRE

is an inland county, bounded on the east by Northamptonshire, on the south-east by Oxfordshire, on the south-west by Gloucestershire, on the west by Worcestershire, on the north-west by Staffordshire, and on the north-east by Leicestershire. Its extreme length from north to south is about fifty miles, its greatest breadth from east to west thirty-three miles; it is of an irregular figure, running very much into the other counties on the west; its area is about 902 square miles.

The general aspect of the county is that of an undulating surface, without any hills that exceed 700 feet in height: it is in general well wooded. The elevations are never so steep as to prevent cultivation, and the whole surface may be rendered available for agricultural purposes. To the north-east of the county there is a range of hills, commencing on the north near Baddesley Ensor, and running south-east a little to the east of Baxterley, Ansley and Arley: this high ground extends, with interruptions, in a curved line west to Corley and Packington. Dunsmore Heath is another range of high ground running from east to west, from Hill Moreton, near the eastern boundary of the county, to Stretton and Frankton. To the south of this, a few miles distant, there is another smaller ridge of high ground, round the northern and western base of which the Oxford canal is cut. There is also some high ground about Morton Morrel, six miles south of Warwick. A little to the east of Birmingham, at Packington and at

* Penny Cyclopædia, Art. Bromsgrove.

† The population of Worcester, as of other towns, is given from the last population returns. We are informed by the Mayor of Worcester for the present year (1837) that the population of Worcester, within the Municipal boundaries, is now in round numbers 26,000.

‡ B means borough. P parish. T town.

§ This parish is mostly in Shropshire; the part in this county contains 3074 inhabitants.

Corley, is the highest ridge of land in the county. Two ridges of hills, of some extent, stretch on the south-east of the county, but they are of moderate elevation.

The principal rivers are the Upper Avon, the Tame, the Leam, and the Stour. The Upper Avon rises at Naseby, in Northamptonshire, and entering this county about four miles to the north-east of Rugby, takes a very circuitous winding course to Warwick, where it flows beneath the walls of Warwick Castle: it thence passes to Stratford-upon-Avon, and enters Worcestershire near Salford Priors. In its course to Warwick it receives the waters of the Stour, and other tributaries. At Warwick it is about 200 feet wide; at Stratford-upon-Avon it first becomes navigable. The Sow, a small stream which rises in Walney Wolds, falls into the Avon near Stoneleigh. The Leam rises in Northamptonshire, and enters this county soon after it is crossed by the Oxford canal, takes a winding westerly course to Leamington, and joins the Avon about 1½ mile west of that place. The Stour rises among the high ground in the south-east part of the county, takes a winding course west to Milford Bridge, and thence running north forms a boundary between this county and Worcestershire, as far as Lower Eatington, whence it takes a north-west course till it joins the Avon a little more than a mile below Stratford. The Alne rises near Beardmore, and takes a south-west winding course to Alcester, where it is joined by the small river Arrow, whence flowing in a south direction, it falls into the Avon at Salford Priors Bridge. The Tame rises a little to the west of Birmingham, and making a turn, runs at a short distance north of the town, and continues through the county in a very winding course, but in general north-east direction, till it flows into Staffordshire near Tamworth. The Anker has its source near Foleshill, flows in a winding course west to Atherstone, whence it takes a north-west course till it joins the Tame near Tamworth. The Bourne, the Blythe, the Rea, and the Cole are also tributaries of the Tame. Warwickshire is contained partly in the basin of the Severn, to which the Avon belongs, and partly in that of the Trent. There are medicinal springs at Leamington, Newnham-Regis, Willoughby, and Stratford-upon-Avon.

The Coventry canal commences at Coventry, and taking a north and then a north-westerly direction, after a course of twenty-six miles, traverses the river Tame by an aqueduct, and joins the Fazeley canal at Fazeley, on the confines of the county. The Oxford canal, which skirts the whole eastern part of this county, from Three-shire Stone* to near Rugby, joins that of Coventry at Longford, 4¾ miles from the commencement of the latter; and thus an uninterrupted communication is formed between the basin of the Trent and the Thames, along the valley of the Cherwell. At the junction of the two canals is a safety-gate, to prevent the loss of water in the one, in case the banks of the other should give way. A short distance north of this junction the Coventry canal is joined by that of Ashby-de-la-Zouch, which runs into Leicestershire, and connects Coventry with the coal field of Ashby-de-la-Zouch. The width of the Coventry canal at the surface of the water is 28 feet, and at the bottom 26 feet; the depth of the water is 4 feet. From Fazeley the canal takes a north-north-west course for eleven miles to its junction with the Grand Trunk canal. The Birmingham and Fazeley canal is connected with the Coventry canal at Fazeley, and gives to Birmingham the advantage of this extended water communication. Three other canals proceed from the populous town of Birmingham. The Birmingham old canal, which is connected with the Birmingham and Fazeley canal in the town, takes a north-west direction, and meets the Staffordshire and Worcestershire canal at Autherley, near Wolverhampton, thus opening a communication with the Severn at Worcester, and with the basins of the Trent and Mersey. The Warwick and Birmingham canal joins the Fazeley and Birmingham canal at Digbeth, near Birmingham, whence it runs to Warwick: it then continues to the Oxford canal, at Napton-on-the-hill, and is called the Warwick and Napton canal. The Stratford-upon-Avon canal commences in the Worcester and Birmingham canal at King's Norton, and terminates in the Avon, near Stratford-upon-Avon. From Stratford-upon-Avon a railway, called the Moreton and Stratford-upon-Avon railway, runs through the southern boundary of the county to Moreton-

* See page 234.

in-the-Marsh. A short cut runs from the Birmingham and Stratford-upon-Avon canal, near Lapworth, into the Birmingham and Warwick canal; and the Oxford canal, running north-east from Napton, joins the Grand Junction canal near Braunston, in Northamptonshire. An additional and improved line of communication is formed by a canal called the Birmingham and Liverpool Junction canal, which commencing in the Staffordshire and Worcestershire canal, near the end of the Birmingham canal at Autherley, joins the Ellesmere and Chester canal near Nantwich, and the Shrewsbury canal near Wellington and Newport. It thus appears that Warwickshire has the advantage of a most extended inland navigation in all directions.

This county is divided into four hundreds, besides the liberties of Coventry, and contains 220 parishes, one city, and 12 market-towns. It is likewise politically divided into two divisions, north and south, each of which sends two members to parliament.

The northern division comprises, hundreds — Hemlingford, Knightlow, part of, *i.e.* the Rugby division, the Kirby division, the county of the city of Coventry.

The southern division comprises, hundreds — Barlichway, including an isolated portion thereof which is locally situated in Worcestershire to the east of Broomsgrove; Kington, including the isolated portion thereof which is locally situated out of the county of Warwick to the west of Shipston-upon-Stour, and is bounded by parts of Worcestershire and Gloucestershire; Knightlow, the remainder of, *i.e.* the Kenilworth division, the Southam division.

A railway, for which a bill was passed in 1833, is now (1837) in progress between London and Birmingham; from the latter town it passes by Coventry and Rugby, and leaves this county just as it passes over the Oxford canal. This railway is for the transit of passengers as well as goods; the whole length is 111½ miles, and it is proposed to travel on it at speeds of 20 miles and upwards an hour. Another railway called the Grand Junction, or the Birmingham and Liverpool railway, is now completed, and was opened to the public in July of this year (1837): the usual time of passage is 4½ hours; distance about 98 miles; but an engine without a train has passed in two hours. This railway runs from Birmingham to the Liverpool and Manchester railway, which it joins near Newton, and thus completes the communication between London and Liverpool and Manchester, through Birmingham. Bills have also been passed for railways from Birmingham to Gloucester, and from Birmingham to Derby, which, when completed, will form communications with the west and north of England, as they are both connected with other lines of railway.

The prevailing rock of Warwickshire is the new red sandstone; limestone occurs also in some parts. There is a small coal-field extending from Coventry on the south, to Tamworth on the north; on its eastern limit are Atherston and Nuneaton; its narrowest part, which is at these places, is about two miles wide: its broadest part is at Tamworth, where it is more than four miles broad. The best coal is found at Bedworth, where the principal bed is from three to four feet thick; there are also pits at Nuneaton, Wilnecote, and in several other parts of the field. Blue flagstone used for paving is quarried near Bidford and Wilnecote.

The hills of this county having, on the whole, no great elevation, the climate is mild and vegetation early. The most prevalent winds are from the south-west. The soil is various, but in general is good, and there is little which would not repay the expense of good cultivation. One district extending from the centre of the county to the eastern boundary is in some parts a red loam upon a substratum of gravel, freestone, or limestone. In other parts there is a light gravelly soil, and in some parts a rich clay loam, on a subsoil of limestone and marl. Towards the south, the soil is in some parts a cold, strong, but poor clay; in others a clay loam. A tract of rich grass land from four to five miles broad begins at the Brailes-hill, and extends beyond Geyden and Knightcote. In the neighbourhood of Warwick, and to the south-west, is a strong clay loam on a substratum of marl and limestone rock. A great proportion of the north-west is in tillage, but the soil here is in general poorer than in any other part of the county; occasional patches however of fertile land occur about Birmingham, where the land is mostly of a light red sandy character, arising from the decom-

position of the red sandstone on which it rests, and is well adapted to turnip husbandry. On the borders of Leicestershire a tract of land composed of strong clay loam is employed for pasturage. The crops usually cultivated, according to the nature of the soil, are wheat, barley, oats, peas, beans, vetches, and turnips. Rye, potatoes, and flax, are partially raised.

This county is described by early writers as divided into two districts, the Champaign and the Woodlands. The Avon formed the line that separated these tracts; the Champaign being on the south-east. The principal woodlands are still about the middle, western, and northern districts, but nearly every division is interspersed with valuable and ornamental timber. The oak and elm trees are often very fine.

Birmingham is situated in the north-west part of the county, very near the borders of Staffordshire and Worcestershire, 109 miles N.N.W. of London. It is now one of the first manufacturing towns in England, a rank to which it has risen within a comparatively short period. It is supposed to have existed as early as the time of Alfred, but it was a place of little note until modern times. Within less than three centuries its land has been centupled in nominal value. A school founded by Edward VI., with a revenue of 30*l.* from landed property, receives at present from the same estate considerably above 3000*l.*, and the amount of the school income is continually increasing as the leases fall in. At the beginning of the 18th century, Birmingham contained a population of 10,000 persons; in 1801 the number was increased to 73,670, and in 1831 to 146,986. This populous place was, until the Reform Act, unrepresented in Parliament. It now constitutes a parliamentary borough sending two members to the House of Commons. This borough includes the parish of Birmingham, the parish of Edgbaston and the townships of Bordesley, Duddestone and Nechels, and Deritend; the extreme length of the borough from east to west is 6 miles, and from south-west to north-east 5½ miles.

The town of Birmingham is about two miles in length. In 1701 it contained 30 streets; the number is now above 400. The lower part of the town consists chiefly of old houses, but the upper part of well-arranged and regular streets, containing many good buildings. There are six churches, all comprised within the parish of Birmingham, and also several chapels connected with the Establishment; places of public worship for Christians of all denominations; and a synagogue. The principal charitable institutions are: 1. An hospital erected in 1766, and opened in 1779, which can accommodate a hundred and fifty house patients. A triennial musical festival is held in Birmingham in support of this charity, by which several thousand pounds are raised on each occasion: 2. A school for deaf and dumb children, which is liberally supported and well conducted: 3. The Grammar School, founded by Edward VI., and endowed with the lands formerly belonging to a society called the Guild, or Fraternity of the Holy Cross. The old school-house, erected about 1707, has been pulled down, and a fine building in the Gothic style is just now completed on the former site. It contains a very large school-room with cloisters under it, a large room for a library, and handsome houses for the head master and usher: 4. The dispensary, established in 1793, at which several thousand patients annually receive advice, or if too ill, are attended at their own houses. The present building belonging to this charity was erected in Union-street in 1806; the architectural design of the front of this building is not in good taste: 5. An eye infirmary: 6. An institution for the relief of bodily deformities, established in 1817: 7. A society for the suppression of mendicity: 8. A magdalen institution, besides several minor charities. A theatre, a news room, handsome barracks, and an assembly room, are among the public buildings. Birmingham has of late years perhaps been ornamented by more new public edifices than any town in England. The Town Hall, which is built of gray Anglesea marble, is a noble building, with a range of Corinthian columns on three sides: the interior length of the hall is 140 feet, the width 65, and the height 65 feet. This room, which contains a large organ, one of the most powerful in Europe, is used for the musical festivals and for public meetings. The market-house recently built is a fine stone structure well arranged for its purpose. The police office is a stone building, erected in 1806, situated in Moor-street; at the

back of it is the new prison, which is airy and convenient, and an excellent room used by the commissioners of the street acts. Several of the buildings belonging to the public institutions, and to the joint-stock companies are also handsome elevations. Among these is the building of the Society of Arts, an insitution which was formed in 1812, but the present building was not completed till 1829; the principal room is circular, 52 feet in diameter, and of proportional height, with a dome roof lighted from the centre. In the vicinity of the town is a very large and excellent botanical garden, and a cemetery.

Education has long been an object of much attention in this town. There are schools on the Lancasterian and National systems, which instruct above 2000 children. Besides the grammar-school, already mentioned, there is a blue-coat school, founded in 1724, several other charity-schools, two infant-schools, and numerous Sunday-schools attached to the various places of worship. There are, likewise, a mechanics' institute, two libraries, a philosophical society, a school of medicine, a museum, self-supporting dispensaries, &c.

Birmingham is lighted by gas, with which it is supplied by two different companies. The works of one are situated near the commencement of the Worcester canal. The other works are established at West Bromwich, a distance of 6 miles from Birmingham. The town is well supplied with water by a company, whose reservoir and works are at some distance from the town on the Lichfield road. The source of supply is from Hawthorn brook, and the river Tame, near Salford bridge, on the Erdington road.

The manufactures of Birmingham consist of metal articles of all descriptions, from machinery on the largest scale to the most delicate trinkets. Previous to the year 1688 there were manufactures for coarse iron goods, and it appears that the members for Warwickshire undertook that Birmingham should furnish the government of William III. with a sufficient supply of arms, without any longer having recourse, as before, to foreign manufactures. The making of buttons and buckles next became an important branch of business, and the town has gradually become one vast workshop for the fabrication of most kinds of hardware. The pig iron, received in its rude state from Staffordshire, is worked in extensive founderies, till it is brought into a proper state for the various manufactures to which it is applied.

The extensive engineering works of Messrs. Boulton and Watt, at Soho, a short distance to the north-west of Birmingham, are well known. In this establishment the improvements of Watt were brought to perfection, and, since his time, the works continue to produce engines of the highest power, and the best workmanship. In 1788 a coining-mill was constructed here, which has since been improved so as to perform the work with astonishing rapidity: the copper money of the country was for some time coined here, but it is now stamped in the Mint. Many fine medals have been produced from the Soho mill. During the late war muskets were made in Birmingham in vast quantities, within a very short time; and they are still not only manufactured for home demand, but for the supply of foreign states*. Swords and other military weapons are likewise made here. It would be impossible within our limits to give even a bare enumeration of the various manufactures carried on in this town. Almost every article of metal for use in domestic economy, except cutlery, is produced; gilding, plating, and japanning are brought to great perfection, and all kinds of goods requiring the exercise of these arts are produced. Buttons of every description are manufactured; and pins are made by the assistance of machinery, with a speed that can scarcely be credited. Screws, workmen's tools, steel pens, watch-chains, silver and gold pencil-cases, and a variety of trinkets and toys are manufactured in large quantities. Brass is worked into many articles, both useful and ornamental. Copper-tube making and copper-rolling are also important branches of business; and the manufacture of glass is carried on to a great extent. Trays, and similar goods, are made both in iron and of *papier mâché*. There are also manufactories of whips, coach-furniture, and some few other articles, which require ingenuity; but the manufactories of Birmingham may be considered as more particularly confined to the production of metallic goods. The trade is very great

* In Pigott's Directory for 1835, the addresses of 469 firms appear in this one branch of trade.

with all parts of the kingdom, and its manufactures are known in every corner of the world to which British commerce extends. In return for its exports of manufactured articles, it receives the raw materials on which its elaborate machinery, and the skilful hand of the artisan, impress an additional value. The supply of coal is abundant, and is brought at small expense into the centre of the town by a canal, from the coal-fields of Staffordshire, which lie a few miles north-west of the town. It seems probable that the beds of coal may extend under the town itself, and under-lie a considerable part of the county where no borings have yet been made.

The soil is dry around Birmingham, and the climate is considered healthy. The surface on which the town stands being very undulating, the streets are well washed by the rains, and the town is generally dry and clean. Dr. Price, from the inspection of the bills of mortality and other data, pronounced Birmingham to be one of the healthiest towns in the kingdom. If this be the case, it would show that the smoke and unpleasant consequences, attendant on crowded manufactories, are not so injurious to life as the effects of climate arising from natural causes.

Coventry is 17 miles E. by S. from Birmingham, 9 N.N.E. of Warwick, and 91 miles N.N.W. of London.

Although this city is described as situated in the county of Warwick, it, in fact, constitutes, together with some adjacent villages, a county of itself, under a charter granted by Henry VI. The city of Coventry and its suburbs send two members to parliament; the parishes included in the county of the city have no share in the representation. Coventry is a place of very great antiquity. In the reign of Edward the Confessor a monastery was founded here, which contributed much to the prosperity of the place. In the 14th century the city was surrounded by a wall which remained till the reign of Charles II., by whose order it was nearly demolished in consequence of the active part which the inhabitants of the city had taken in the civil wars against his father.

The principal part of the city is built on a gentle declivity, and is watered by two small streams, the Radford and the Sherbourne. It stands in a level country, about the centre of England, with a mean elevation of about 300 feet above the level of the sea. The streets are generally narrow. Many of the houses are in the old style, with the upper parts projecting; a great part of the old buildings, however, have disappeared, and are replaced by modern red brick houses. There are three parish churches, all of considerable antiquity. St. Michael's is a fine specimen of the pointed style. The tower, erected in the latter part of the 14th century, is above 136 feet high, of beautiful proportions and richly ornamented. From the tower rises an octagonal prism, supported by eight arches, from which springs up a beautiful tapering spire 130 feet high. There are several places of worship for dissenters. The charitable institutions are numerous and well endowed. The grammar-school, which was founded in the reign of Henry VIII., has now an income of about 900*l.* a year. At the time of the inquiry of the Charity Commissioners the school was altogether neglected, but since that time a new master has been appointed, and the school has again some scholars*. There are besides three infant schools, and several daily and Sunday-schools. St. Mary's Hall, which was erected in the reign of Henry VI., is now appropriated to the business and convivial meetings of the municipal authorities. It is a fine specimen of the architecture of the 15th century. The County Hall, built in 1785, is well adapted for public business. The Mayor's Parlour is a place of official resort for municipal proceedings. The Drapers' Hall, rebuilt in 1785, is a neat edifice of stone. The new gaol was erected in 1772. The principal manufactures of Coventry are ribbons and gauzes. Watches are likewise made, and this branch of business has increased so much within the last fifty years, that at present there are probably more watches made in this city than in London. The Oxford and Coventry canals, as already shown, give this city a very extensive communication with other parts of the kingdom.

Nuneaton is a market-town, 17½ miles N.N.E. of Warwick, and a polling place for the north division of the county. The population in 1831 was 7799, which shows a great increase since 1801, when there

* For further information on the School and the Charities, the Reports of the Commissioners may be consulted.

were only 4947 inhabitants. Nuneaton is a large and well built town, and has the advantage of the inland navigation afforded by the Coventry canal. It is likewise watered by the small river Anker. The church is a neat but small building. There is a free grammar-school, founded by Edward VI.; also another endowed school called "Smith's Charity-school," and several daily and Sunday-schools. The ribbon manufacture is carried on here to a considerable extent, and abundance of coal is procured in the neighbourhood. A few miles north-west of this place, on the Anker and on the Coventry canal, is the market-town of Atherstone, twenty miles north of Warwick: it is situated on the Watling-street, and is divided from Leicestershire by the Anker. The town principally consists of one street, in which are some good houses and a convenient market-house. A monastery of Friars Hermits was founded here in 1375. After the dissolution, the western end of the church belonging to the priory was granted to the inhabitants as a chapel of ease, and it continues so to the present time. Atherstone is a township of Manceter, and the parish church is about a mile distant from the town. A free grammar-school was founded in 1573, but for several years there have been no scholars on the foundation. There are an infant-school, national and Sunday-schools. The ribbon manufacture is carried on here; there is likewise a manufactory of hats and shalloon.

Sutton Coldfield, a borough and market-town, six miles N.N.E. of Birmingham, has some manufactures, which were introduced from Birmingham, within the last century, and have proved of great benefit to the place. On the west of the town there was an extensive district of barren land, from the bleak and cheerless aspect of which the distinctive appellative Coldfield is derived; but it has lately been inclosed. The soil all around the town is in general poor and unproductive. Sutton Park, to the north-west of the town, contains about 3500 acres. The poor of Sutton obtain peat for fuel, as well as pasture for their cattle from this park. It was given to the poor for these purposes by Vesey, Bishop of Exeter, a native of the town, who lived in the beginning of the 6th century, and who was a great benefactor to his native place by endowments and other gifts. The Icknield and the Ridgeway Roman roads may be traced a short distance from this town.

Coleshill, eight miles to the east of Birmingham, is a respectable-looking town, with some handsome modern buildings. It is situated on a hill, the base of which is watered by the river Cole. The church is a fine Gothic building, with a square tower and a lofty octagonal tower. There are two small endowed schools. No considerable manufacture is carried on here, but it is a place of great thoroughfare, and the election town of the northern division of the county.

Rugby, a market-town sixteen miles north-east from Warwick, stands on rising ground, in a healthy situation. The streets are clean, but irregular and badly paved; the houses are mostly constructed of wood. No manufacture of any consequence is carried on here; but Rugby has had some trade in the supply of the adjacent country since the opening of the Oxford canal, near which it is situated. The grammar-school, which was founded in the reign of Elizabeth by Lawrence Sheffield, a grocer of London, is at present a flourishing establishment. A handsome new building for this institution was erected in 1808 in the style of architecture which prevailed when the school was first founded, usually termed the Elizabethan style. The original endowment was a mansion at Rugby, and eight acres of land in Lamb's-Conduit Fields, termed the Conduit Close. This piece of land was at the time of trifling value, but after the termination of a long lease, in 1781, the charity obtained from it a ground-rent of 1600*l*., and it was expected that when the leases then granted should expire the revenue would be increased to several thousand pounds. The estates have now for some years been under the gradual operation of renewal, and the income is in consequence very much augmented.

The school has fourteen exhibitions to the Universities of 40*l*. per annum each, during the term of seven years. Fifty pupils are on the foundation, and there are also other boarders: the whole school consists of 300 scholars.

There is another endowed school in the town founded by Richard Elborow, in 1707, for thirty poor children.

To the north-east of the town is an eminence on which a castle formerly

stood, supposed to have been erected in the 11th century; some few traces of the building may still be discerned.

A large school, containing 220 scholars, is principally supported by Mr. Caldecott; there are also other daily and Sunday-schools. Alms-houses were also founded by both the benevolent endowers of the two schools.

Dunchurch, a large village about three miles south of Rugby, has also a free grammar-school, founded in 1707, by Francis Boughton; and near the school is a range of alms-houses, founded and endowed by Thomas Newcombe. The church is a Gothic building, with a tower and porch of considerable beauty. About two miles from this town is an institution called "The County Asylum," established a few years since for the reclaiming of juvenile offenders, by affording them instruction in various branches of trade: it is sanctioned by the magistrates for the county, and has been eminently successful: it depends for its support on voluntary contributions. Dunchurch is a polling place for the north division.

In the southern division, and in the north part of Kington Hundred, is Warwick, the county-town and election place for this division. It is situated on the north-west side of the Avon, 90½ miles north-west of London. Warwick sends two representatives to parliament. This town is a place of great antiquity, and its castle has many historical associations. Guy Earl of Warwick, whose exploits and whose prowess might form a chapter in the history of "Jack the Giant-killer," is supposed to have lived in the 10th century, and tradition assigns this spot as the site of the hermitage to which he retired after his wonderful exploits. Antiquarians fix this time as that in which the first castle was erected by Ethelfleda, queen of Mercia. Rather to the south of the town, on an eminence near the river, about a hundred feet above its level, stands the present castle, built on a solid rock. Through this rock a broad and winding path is cut, near the termination of which, as the visitor approaches from the town, the castle comes in sight. The best view is from the river. The external form of the old baronial residence is no further changed than has been found necessary for the purposes of internal comfort, and it accordingly presents one of the best extant specimens of this class of buildings. The park is extensive, and the grounds are laid out with great taste*.

The town itself stands on a small eminence, which rises somewhat abruptly from the bank of the Avon. At the latter end of the 17th century it was nearly destroyed by fire, and that part which has been re-built is regular and well arranged, forming a contrast with the small part of the ancient town which still remains. The principal street, which runs parallel to and at a little distance from the river, is of considerable length, and intersected by one wide street and several smaller streets. In the reign of William I. this town was surrounded by a dyke and walls; the walls have long since disappeared, but of the dyke a considerable part is yet visible. At each end of the principal street, is a gateway, that on the west being surmounted by an ancient chapel. There were formerly six parish churches, but at present there are only two; the principal of these churches was originally erected in the beginning of the 12th century, by the first Earl of Warwick, and rebuilt in the latter end of the 14th century, by some of his descendants. It was considerably damaged by the fire already mentioned, but the choir and the chapel escaped destruction, and to these a new church was adapted in 1704, which is said to be not at all equal in architectural beauty to the ancient structure. It is built in the form of a cross; in the middle of the choir is the elaborate altar tomb of one of the Earls of Warwick, and there are numerous other monuments in various parts of the church. Adjoining on the south is the ancient chapel, which was erected in the 15th century. It is a fine specimen of the florid Gothic, and is highly enriched both externally and internally; the whole is in a tolerable state of preservation. The floors are composed of black and white marble, and form three levels, rising by one step each to the altar screen, which is highly decorated. Nearly in the centre of the chapel is the monument of its founder, one of the finest specimens of the kind. The other church is a respectable building. There are, likewise, several places of worship for various bodies of dissenters. The principal public buildings are, 1st, the court-house on the south side of the High-street, which was re-built shortly

* See "Brayley's Views of Castles in England."

after the fire; 2nd, the county hall, a handsome building, erected in 1758; 3rd, the market-house, a substantial stone building with a piazza: the upper room contains the museum of the Warwickshire Natural History Society; 4th, the county gaol, which is a modern structure, commodious and well arranged; 5th, the bridewell: there are likewise a dispensary, an infant school, a well endowed hospital, founded by Robert Earl of Leicester, and other charitable institutions. A handsome stone bridge of one arch crosses the Avon; it was constructed some years ago at the expense of the Earl of Warwick. The principal manufactures are combing and otherwise preparing wool into worsted, to be spun into stockings. A mill for the spinning of cotton-yarn is situated between two and three miles from the town, on the Avon. The facilities of communication by water, already noticed, greatly add to the trade and prosperity of the town. A wharf is constructed at the head of the canal.

Leamington Priors, about two miles to the east of Warwick, was within the last forty years only an inconsiderable village; but since 1797 its medicinal springs have been gradually rising in repute, and it is now become a place of fashionable resort for those who seek pleasure in change of place, as well as for invalids who hope for relief from the waters. The waters have saline properties, and are administered internally as well as externally; the latter mode of application being recommended in cutaneous and some other disorders. A pump-room and baths, more than 20 in number, are erected with all suitable arrangement, and by means of a forcing engine are constantly supplied with water from the springs. Many of the houses are large and convenient, and though most of them are fitted up as boarding or lodging houses, of late years numerous very handsome private residences have been built in and near the town. A bridge crosses a branch of the river Avon, near the pump-room, and connects the new town with the village or old town. There is a Roman Catholic chapel, several new churches, and numerous large hotels. The main street, in point of appearance and style of building, is perhaps equal to the best streets of any town in England. Leamington, in fact, is now, as to size and population, a large town.

Kenilworth, a market-town situated 4 miles north of Warwick, is about midway between Coventry and Warwick. Kenilworth had once a magnificent castle, which was surrounded by an extensive chase and park. It was founded in the reign of Henry I., by an ancestor of Henry IV., through whom it became the property of the crown, and continued so until Queen Elizabeth conferred it on her favourite, the Earl of Leicester. The immense sums expended by that nobleman in enlarging and adorning the building, and the magnificence with which he entertained the Queen when all was completed, during seventeen days, are matter of historical record, which the inventive power of the great novelist has invested with additional interest. During the civil wars in the 17th century this stately castle was nearly demolished; but there are at present sufficient remains to show its former strength and extent. The walls of the castle included an area of seven acres, and the circuit of the walls enclosing the manor, park, and chase, was from nineteen to twenty miles.

The town of Kenilworth consists principally of one long irregular street; it contains one church, and two meeting-houses. The parish contains two endowed schools. There is a considerable manufacture of horn combs.

Stratford-upon-Avon, a market town, situated on the west bank of the river, is eight miles south-west of Warwick. The town, which has a cheerful appearance and is clean, consists of twelve principal streets. A bridge, 376 yards in length, consisting of 14 arches, crosses the Avon. On the margin of the river, surrounded by lofty trees, stands the church, a very ancient edifice, apparently, from the style of architecture, built at various times during the 14th and 15th centuries. There is also a venerable building of considerable beauty, denominated the chapel of the Holy Cross, which was originally founded by the Guild of the Holy Cross, a society partly civil and partly religious, established here in the 13th century. Some parts of the building were taken down and rebuilt in the time of Henry VII. Attached to the chapel a hall was erected for the brethren of the guild; on the dissolution of religious houses this guild was included in the general suppression, but the hall is still used for the meetings of the municipal authorities. Almshouses, and a free

grammar-school, were likewise attached to the chapel, both of which are still supported. There are likewise, besides other daily schools, an infant school and Sunday schools. The town-hall, as it now stands, was erected in the year 1768. It contains a room 60 feet in length. Stratford has only a small button manufacture, but it has some trade in corn and malt, by the water communication already described. It is likewise a place of considerable land traffic, since the road from London to Holyhead by Birmingham passes through this town.

Though of no consequence as a commercial or manufacturing place, Stratford-upon-Avon will always possess a strong interest from the circumstance of its having been the birth-place of Shakspere. In the church is a monument and bust to his memory; this latter, in the fashion of the times, was originally made to resemble him in colour as well as in features: the eyes were a light hazel, the hair and beard auburn, the dress a scarlet doublet, over which hung a loose black gown without sleeves. In 1748 the monument was repaired at the cost of a company of strolling players. In 1793 another admirer of the bust of the great dramatist caused it to be modernized and *improved* by a coating of white over the whole, which, added to the previous coats which this bust had received, have filled up or disfigured every characteristic mark. The town-hall in 1769 was dedicated, at Garrick's jubilee, to Shakspere, and has since been called Shakspere Hall. Portraits of both the dramatist and actor decorate the inside, and on the outside is a statue of Shakspere. An old dilapidated house is shown in Henley-street, in which it is said the poet was born; it is now divided into two dwellings, the one a butcher's shop, and the other a public house. After Shakspere had attained comparative affluence he retired to his native town, bought a house, to which he gave the name of New-place, and in which he resided for nearly 20 years before his death, in 1616. In 1753 this place, which was consecrated by so many recollections, became the property of the Rev. Francis Gastrell, who cut down the mulberry-tree which had been planted by Shakspere's own hand, and in a few years after rased the building to the ground.

Alcester is thirteen miles W.S.W. of Warwick, at the confluence of the rivers Aln and Arrow; the united stream flows into the Avon. This town is supposed to have been a Roman station, since the Icknield-street runs through it, and many Roman antiquities have frequently been discovered here. It is certainly an old town, and some of the principal houses exhibit the massive architecture of former days. The church is a plain but neat building. There is a neat market-hall, with a colonnade. A free-school was founded in the reign of Elizabeth, and there are also a few daily schools, and two Sunday schools. The principal manufacture is that of needles.

Southam, a market-town, on the road from Warwick to London, nine miles south-east of Warwick, contains a handsome church.

Bedworth, fifteen miles N.N.E. of Warwick, is on the Coventry canal. Coal is found in the neighbourhood.

Kineton, or Kington, a market-town, nine miles S.S.E. of Warwick, is situated on the north-west side of the Edge Hills. An indecisive battle was fought at Edgehill in 1642, between the forces of Charles I. and the Parliament; this was the first engagement in the Civil Wars. The pit in which the dead were buried is still marked out by a few fir-trees growing on the spot.

Three Roman roads intersected this county. The Watling-street entered it at Fazeley, crossed the county to Mancetter, and then formed its boundary to about 4 miles E. by S. of Rugby. The Fosse way crossed this from Leicestershire at High Cross, near Wiptoft, and passed through Warwickshire in a south-east direction to Moreton-in-the-Marsh. The Icknield-street entered at the north-west angle of the county, and continued through this county and Worcestershire to the south-west, where it passed into Gloucestershire. It is still to be distinguished in the neighbourhood of Bidford, and on the north of Alcester. The Watling-street forms the public way between Daventry and Lutterworth, and in several other parts it can be distinctly traced. The vestiges of many Roman encampments are to be found in this county, as well as tumuli. Coins, and other antiquities of the Romans, have been discovered in several parts.

Population of the market-towns of Warwickshire.

Warwick (B) 9109

Birmingham (T)	146,986
Coventry (C)	27,070
Rugby (P)	2501
Nuneaton (P)	7799
Atherstone (T)	3870
Sutton Coldfield (P)	3684
Coleshill (P)	1853
Henley-in-Arden (CH)	1214
Alcester (P)	2405
Stratford-upon-Avon (T)	3488
Kington (P)	1102
Southam (P)	1256

N.B. B stands for borough, T for town, C for city, CH for chapelry, P for parish.

Authorities.

Dugdale's History of Warwickshire.
Wedge's General View of the Agriculture of Warwickshire.
Brief History of Birmingham.
Hutton's History of Birmingham.
Guide through Birmingham.

NORTHAMPTONSHIRE

Is an inland county, nearly midway between the western and eastern boundaries of the island. It is of an oblong, irregular shape, in consequence of which, and of its central position, it touches nine counties. On the south it is bounded by Buckinghamshire and Oxfordshire: on the west by Warwickshire and Leicestershire: on the north by Rutlandshire and Lincolnshire; on the north-east by Cambridgeshire; and on the east by Huntingdonshire and Bedfordshire. Its extreme length from south-west to north-east is about 70 miles; its greatest breadth about 25 miles; its least breadth not quite 8 miles: and its circumference 216 miles; its area is 1075 square miles. Northamptonshire is on the whole a fine county, well wooded, and watered by numerous streams, and in general covered with a rich verdure. It is agreeably diversified with small elevations, but contains none which are too high or rugged to be appropriated either to tillage or pasture. Northamptonshire is, however, generally more elevated than the adjoining counties, which appears from the fact of its containing the sources of several rivers which pass into other counties, and no streams flowing into it from any other county.

The highest part is on the west and north-western boundary of the county. A ridge of high land, commencing near Wakerley on the north, ranges in a south-west direction to near Braybrook; and on a line with this, after a slight interruption, the high ground continued by Oxendon Magna, and Clipston, to Cold Ashby, where it is met by another ridge, commencing at Welford on the north, and continuing thence due south. This latter ridge curves to the west by West Haddon, and goes on to Barby: between these two places it is intersected by the Union canal and the Birmingham and London railway, both of which pass through tunnels; the railway penetrates this high ground at Kilsby. From Barby this ridge continues nearly south, and near Daventry attains its highest elevation, being there about 800 feet above sea level. At Staverton, Woodford, and Gretworth, ridges connected with this high land diverge from it to the east; that from Woodford passes through the county into Bedfordshire, and separates the valleys of the Nen and the Ouse.

The principal rivers of this county are the Nen* and the Welland. The former has two sources, one about 12 miles N.N.W. of Northampton, and the other between two and three miles W.S.W. of Daventry. These streams meet at Northampton, where the river becomes navigable, and the united river takes a winding course to Peterborough, from which point the Nen forms the county boundary as far as the neighbourhood of Crowland.

The Welland† rises about 16 miles N.N.W. of Northampton, and forms the boundary of the county, which it separates from Leicestershire, Rutlandshire, and Lincolnshire, as far as the neighbourhood of Crowland, where the Welland and the Nen approach within a few miles of one another. It has been made navigable by means of locks as far as Stamford in Lincolnshire. The Ouse and Avon rise in Northamptonshire, but only a very small part of their course is within this county. Besides these navigable rivers, there is considerable water communication in this county by means of canals. The Grand Junction canal commences in this county at Braunston, bordering upon Warwickshire, where it unites with the Oxford canal, and goes through Northamptonshire, first in an east and then in a S.S.E. direction, to Cosgrove, and thence passes into Buckinghamshire. At Cosgrove there is a branch to Stoney Strat-

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* See page 41.
† See page 41.

ford. The whole length of this canal is 90 miles; the part which runs through Northamptonshire is 25½ miles.

The Grand Junction canal passes through two tunnels in its course through this county; one at Braunston and the other at Blisworth, which latter was constructed with great difficulty and at great expense. From the neighbourhood of Blisworth, a distance of about five miles, there is a branch communicating with Northampton. This canal gives the means of communication, through the Oxford canal, with all the canals in the district round Birmingham.

The Grand Union canal commences in the Grand Junction canal, in the parish of Norton, a little to the north of Daventry. This canal runs in a northern direction till it joins the Leicester canal, near Foxton, about four miles north-west of Market Harborough, to which place there is a branch; thus a communication is effected with the navigations of the Trent and Mersey.

The London and Birmingham railway crosses this county; it enters from Buckinghamshire, near Ashton, has a north-west course through the county, and passes into Warwickshire, about one mile north-west of Kilsby.

Northamptonshire is occupied by the lower oolite formation. Limestone abounds in every part, and it is quarried extensively. Good building freestone is raised near Brackley, in the southern part of the county, and at other places; there are considerable slate quarries at Collyweston.

The soil is in general a stiff loam, in some places cold and wet, but with good management, not unproductive. About half of the county is in pasture, not including the woodlands and common lands; but though considered as a grazing and dairy county, the cultivation of wheat and other usual crops is carried on to a considerable extent. At an early period Northamptonshire was nearly occupied by the forests of Rockingham, Salcey, and Whittlebury. The forest of Rockingham is in the north part of the county, and once extended for nearly 20 miles in an almost unbroken line towards the centre of the county. The forests of Salcey and Whittlebury are in the southern part of the county. Most of the underwood of these forests consists of black and white thorn, ash, sallow, maple, and a small proportion of hazel. The timber is chiefly oak, ash, beech, and elm. Rockingham Forest is now inclosed; and Salcey Forest is disforested, and only a very small portion of it remains in woodland.

The north-eastern part of the county, adjoining Lincolnshire and Cambridgeshire, is a continuation of the fen lands of those counties. Peterborough fen, a tract of level land extending from Peterborough to Crowland, forms a part of the Bedford level, and contains from 6000 to 7000 acres of a soil perhaps equal to any in England. But until the last few years it was an unenclosed common, and the right of depasturing cattle upon it was shared by 32 parishes. In this state it was comparatively of little value; but it is now enclosed and appropriated.

This county is divided into 20 hundreds, containing 305 parishes, one city, and 11 market towns. It is also divided into southern and northern divisions, each of which sends two members to Parliament.

The southern division comprises—Hundreds: King's Sutton, Chipping Warden, Green's Norton, Cleley, Towcester, Fawsley, Wymersley, Spelhoe, Nobottle Grove, and Guilsborough.

The northern division comprises—Hundreds: Liberty of Peterborough, Willybrook, Poolebrook, Huxloe, Navisford, Corby, Higham Ferrers, Rothwell, Hamfordshoe, and Orlingbury.

Northampton, the county and assize town, is situated in the southern division, 56 miles north-west of London. It sends two members to Parliament, and is the place of election for the southern division of the county. Northampton is said to be a borough by prescription, and to be mentioned as such in Domesday Book This town is situated on the summit of a gentle eminence, and was formerly defended by embattled walls and a castle on the west side, of which there are still some remains. The town formerly contained seven parish churches, but there are now only four. St. Peter's church is supposed to have been built a few years after the conquest. There are also several chapels for dissenters.

The town consists of four principal wide streets, and several smaller ones diverging from them. The houses are mostly built of reddish coloured freestone, dug from quarries in the neighbourhood. The market place is a large, open area, surrounded by shops and houses. Here is the public pump, and at one side of the square is a reservoir

called the Great Conduit. The principal buildings are, 1. The new county gaol, completed in 1794, and constructed on the plan of Howard. 2. An infirmary, built in 1793, at the eastern extremity of the town. 3. The county hall, a handsome building with Corinthian columns. 4. A new theatre. 5. A lunatic asylum. On the London road, a little out of the town, is Queen's Cross, one of those which were erected by Edward I. at those places where his wife's body rested on its way to interment.* Boots and shoes are largely manufactured at Northampton, and chiefly for exportation. The making of lace and wool-combing are carried on here. There are also two large iron manufactories. Northampton is a great thoroughfare, both on the north and the west roads. It has a horse market, which is now considerable, and was formerly the largest in England. On the Nen are several mills. This town imports coals, iron, deals, leather, and thread for lace-making. It contains a well-endowed hospital, a grammar-school, four charity-schools, and numerous other charities. Among these are, the hospital of St. John's, an ancient building, founded for the reception of poor infirm persons in the twelfth century; and the hospital of St. Thomas, founded in 1450, and further endowed in 1564. The total income of all the charities, which before the passing of the Municipal Act were administered by the corporation, is above £3000 per annum.

Towcester, a market-town eight miles S.S.W. from Northampton, is a place of great antiquity; the Roman Watling-street runs through this town, and numerous Roman coins have been found at Berrimont-hill, an artificial eminence on the north-east side of the town. There are still remains of a Saxon castle on the north-west. A little river called the Tove, an affluent of the Ouse, over which there are three bridges, nearly surrounds the town, which chiefly consists of one long, wide street, with well-built houses. It is a great thoroughfare, and has several good inns. The principal business is lace-making.

Daventry, 11 miles west of Northampton, is an ancient borough. At Dane's-hill, in the neighbourhood, is an encampment supposed to be of Roman construction. The principal manufactures of Daventry are whips and silk hose. There are some charitable endowments for the poor.

Brackley, situated on the river Ouse, on the borders of Buckinghamshire, is one of the oldest boroughs in England. It contains a free-school, almshouses, and various charities: there is also a handsome town-hall. Daventry, Towcester, and Brackley are polling places for the south division. Brackley is a disfranchised parliamentary borough.

Peterborough, 38 miles north-east of Northampton, is situated in the northern division of the county, on the borders of Huntingdon and Cambridgeshire, and on the north bank of the river Nen. It sends two members to Parliament, and is a polling place for the county. It was made a city and a bishop's see by Henry VIII., who on the dissolution of the monasteries increased the number of sees. The cathedral is a fine edifice of great antiquity. It was formerly a monastery, founded about 656, distinguished in the Anglo-Saxon annals, and afterwards destroyed. The present cathedral was built in 1118, and the succeeding century. It consists of transepts, nave, aisles, and choir terminating at the east end in a semicircular form. Its length is 471 feet, and its breadth 180. In the centre is a tower 150 feet high, rising from four arches. Mary, Queen of Scotland, was interred here on the day after her execution at Fotheringay castle. In 1612, 25 years afterwards, her son, James I., had her coffin transported to Westminster Abbey.

The streets and buildings of Peterborough are mostly neat and regular. The parish church, situated near the centre of the city, has a large altar-piece painted by Sir R. K. Porter, and a beautiful monumental tablet by Flaxman. The close, west of the cathedral, is nearly surrounded by ancient monastic buildings. In the centre of the south side is a large tower-gateway, communicating with the bishop's palace. On the north is the deanery, the entrance to which is through a handsome, highly ornamented gateway. The market-house, situated near the cathedral, is a good building, in the upper part of which are held the assizes and sessions for the liberty. There is a well-endowed free-school. The bridge over the Nen leading to the town was first built in 1299, at the expense of Abbot Godfrey; it was thoroughly repaired in 1790. The principal trade of Peter-

* See page 156.

borough is by means of the Nen in coals, corn, malt, timber, &c. It has also a considerable manufacture of stockings.

Kettering, a market-town, 14 miles north-east of Northampton, is situated on rising ground near a rivulet which falls into the Nen. Many of the houses are of mean appearance; but nearly in the centre of the town is a spacious area surrounded by some better looking houses and shops. The church has a handsome tower and spire; there are several dissenting places of worship; a small endowed free-school, and an alms-house.

Oundle, 26 miles north-east of Northampton, is situated on the Nen, which here makes a bend and nearly surrounds the town. It is small but well built, and contains a fine church. A free grammar-school and an alms-house were founded here in 1544 by Sir William Laxton, a native of the town, and a Lord Mayor of London. There is a charity-school endowed in 1620 by Nicholas Latham, who also founded an hospital for the benefit of sixteen aged women. The river is crossed here by two bridges, one of which, called North Bridge, is considered very handsome. Oundle is a polling place for the county.

Thrapston, 20 miles north-east of Northampton, is well situated in a valley on the south bank of the Nen, over which there is a fine bridge of several arches. The houses are in general well built. The river was made navigable to this place in 1737, and some trade is carried on by the town through means of it.

Higham Ferrers, 14 miles E.N.E. of Northampton, a market and borough-town, is situated on a rocky elevation a short distance from the Nen. It is of considerable antiquity, and the church is a fine old building. A college founded here in 1422 was surrendered to the crown in 1543. The remains of the ancient building belonging to it are now converted into an inn; and a portion of the revenues form the endowment of the present free-school, which is held in a handsome stone building. There is likewise an alms-house. The town consists of two streets, a lane, and a market-stead. Higham Ferrers is one of the disfranchised parliamentary boroughs.

Wellingborough, 10 miles north-east of Northampton, on the declivity of a hill, is a clean neatly built town. The church is a large edifice, with a tower surmounted by a handsome spire; there are two places of worship for dissenters. The town has a free grammar-school, and a large charity-school. Near the town is a chalybeate spring, formerly of much celebrity. Wellingborough is a polling place for the county.

Rothwell, 14 miles north by east of Northampton, has a very ancient market-house in a curious style of architecture. The place formerly contained a priory for nuns. It is said that the town derives its name from two remarkable springs, one of which has a strong petrifying quality.

Clipston, 13 miles north of Northampton, has an hospital and school pretty well endowed. Clipston is a polling place for the county.

Population of the market-towns of Northamptonshire:—

Northampton (T)	15,351
Wellingborough (P) ..	4,688
Higham Ferrers (B & P)	965
Kettering (P)	4,099
Thrapstone (P)	1,014
Oundle (P)..........	2,450
Peterborough (City)..	5,553
Rockingham (P).....	296
Rothwell (P)	2,002
Daventry (P)	3,648
Towcester (P)	2,671
Brackley (B)	2,107

N.B. T stands for town, P for parish, B for borough.

Authorities.

Norden's Speculi Brittanniæ, pars altera, or a Delineation of Northamptonshire.

Donaldson's General View of the Agriculture of Northampton.

Pitt's General View of the Agriculture of Northampton.

LEICESTERSHIRE

Is an inland county, situated nearly in the centre of the kingdom; it is bounded on the south-east by Northamptonshire, on the east by Rutlandshire and Lincolnshire, on the north by Nottinghamshire, on the north-west by Derbyshire and in a very small part by Staffordshire, and on the south-west by Warwickshire. Its extreme length is 46 miles, its greatest breadth from east to west about 40 miles, and its circumference about 150 miles. It contains 804 square miles. The general

appearance of the county is a pleasing variety of hill and valley; the hills have a sufficient slope to carry off the water, and they are no where too steep for the purposes of cultivation. In the centre of the county is the extensive valley of the Soar, from which the land rises towards the north-west to Charnwood forest, which contains the highest land in the county, though it is not in fact more than 700 or 800 feet above the level of the sea. Bardon Hill is the highest point of this district. Though called a forest, Charnwood is now almost without a tree. This tract of land comprehends between 15,000 and 16,000 acres. There is also a range of high land on the north-east, extending from Burton on the Wolds to the boundary of the county at Woolthorpe. Along the eastern boundary there are two or three detached ridges; and in the south, running nearly west and east, and then curving to the north-east a little to the north of Lutterworth, there is high ground of some extent through which the Union Canal passes by a tunnel. From this elevated district several streams descend to the Soar and to the basin of the Trent. Leicestershire, in fact, nearly forms one basin, which is surrounded by high land of moderate elevation, the drainage of which is collected in the central valley of the Soar. A small part of the west and south-west drainage of the county belongs to the basin of the Trent, and a very small part of the southern drainage to that of the Avon and the Welland.

The principal rivers of this county are the Soar, the Trent, the Wreak, the Welland, the Anker, and the Upper Avon. The chief branch of the Soar rises about five miles north-west from Lutterworth, whence, taking a general north-east and north direction, it passes through Leicester and past Mount Sorel and Loughborough to the Trent, which it joins near Sawley; the length of its course is near 35 miles. It has been rendered navigable as far as Leicester, partly along the channel of the river and partly by artificial cuts. The Trent forms, for a few miles, the boundary between Derbyshire and Leicestershire. The Wreak rises in the north-east part of the county, and running past Melton Mowbray falls into the Soar, five miles to the north of Leicester. It is navigable as far as Melton Mowbray, from which place a canal runs to Oakham in Rutlandshire. The Welland has several sources in the south-east angle of the county, whence it flows north-east, forming the boundary between this county and Northamptonshire. The Upper Avon rises in Northamptonshire, near Naseby, and running westward, forms the boundary of the county till it enters Warwickshire, near Swineford. The Anker forms, for a few miles, the south-west boundary, where a tributary, which takes its rise in Charnwood forest, falls into it.

The Leicester Union canal joins the Grand Union canal near Foxton, as mentioned in the description of Northamptonshire: from this junction a branch proceeds to Market Harborough. From Foxton the Leicester Union canal runs in a winding north-west direction to the Soar at Aylestone bridge, and thence the navigation continues in the bed of the Soar to Leicester; at Saddington there is a tunnel 880 yards in length, which is the summit level of the canal, and is 295 feet above the level of the sea. The whole length is 17 miles. The tunnel was completed in 1800, and the whole length of the line from Leicester to Foxton was opened soon after.

The Leicester canal or navigation commences in the basin of the Loughborough canal, at the north side of the town. Passing that town it runs in a south-east direction to the Soar at Quorndon; at this point the Soar becomes navigable, and continues so to its junction with the Wreak near Wanley Hall: the two rivers are both navigable to Turnwater Meadow, where a cut is made to avoid the shallows, and both rivers are made navigable, the Wreak to Melton Mowbray, and the Soar to Leicester, where it meets the Leicester Union canal. This navigation from Loughborough to Leicester is 14 miles in length, with a rise of 45 feet.

A railway, commencing at the Soar in the town of Leicester, proceeds in a north-west direction to the village of Swannington, and thence to Ashby: there are likewise four branches from the main line to different collieries. The whole length of the main line is 15¾ miles, and it is carried through a considerable extent of irregular surface.

In the neighbourhood of Ashby de la Zouch (the mining district in the north-west of the county) the canal of that name commences, and runs towards the south, passing by Hinckley into Warwickshire, where it joins the Coventry

canal.* This canal is 26½ miles long, and being carried on a high level has no locks throughout, and only one tunnel. It was the original intention to continue this from Ashby de la Zouch on the north to join the Trent, but the want of funds caused this design to be abandoned, and railways have been substituted to effect a communication with the canal and the coal and lime-works. Another road has also been opened to these works, consisting partly of a railway and partly of canal, which was to terminate at Loughborough in the river Soar, but it is still unfinished, and does not go further than two miles south-west of that place. The Grantham canal, which joins Nottingham and Grantham in Lincolnshire, passes in its course through the north-eastern extremity of Leicestershire.

Leicestershire is principally occupied by the newer red sandstone formation; except that part of the county east of the Soar, which is mainly occupied by the lias. Slate occurs in Charnwood forest, and the hill of Mount Sorel is composed of a red stone which is strengthened by exposure to air, so as to resist the hardest tools. Coal is found in the north-west part of the county not far from the borders of Derbyshire. The coal field, distinguished as the Ashby coal field, extends five or six miles in all directions round the town of Ashby-de-la-Zouch. The strata crop out to the east and north, where they rest on the carboniferous limestone. In one part of this coal field a seam of coal occurs, which is from 18 to 20 feet in thickness, and some of the pits are nearly 200 fathoms deep. The coal is raised at considerable expense, but the quality is good. Mines are now worked at Colcorton, Snibston, Whitwick, Ibstock, Bagworth, and Ashby Wolds. Leicester, which until about six years ago was supplied exclusively from the Derbyshire pits, now derives about two-thirds of the coal for its consumption from the Leicestershire collieries; the coal is conveyed by means of the Leicester and Swannington railway from Colcorton to Leicester. Ironstone is also found, but it does not pay the expense of getting the metal. Quarries of slate are worked in the east part of Charnwood forest. Limestone is in some parts abundant; freestone and brick earth are found in most parts of the county.

The climate is in general salubrious, and so mild, especially in the western part, that the harvest is usually ten days earlier than on the east coast of England in the same latitude.

The soil is in general an intermixture of sand and clay in various proportions, the latter most usually predominating; the driest and lightest soil is on the hills; that nearer approaching to stiff clay, in the valleys, but this is by no means a general rule.

The natural fertility has in most parts been greatly improved by draining, and the country, in general, is under good cultivation, except Charnwood forest, a tract of land on the north-east called the Wolds, and another similar tract on the south. Leicester is principally a grazing county, more than half the land being under pasturage, and most of the rest under tillage with green crops and clover for the feeding and fattening of cattle. The older pasturage grounds are to the south and east; and along the banks of the rivers there are rich grass lands: in these parts there are many farms without any arable land attached to them. In the north and west, wheat, barley, and oats are grown though not very largely. In some situations, especially along the Trent, on the borders of Derbyshire, and in the vale of Belvoir, and on the west in the vicinity of Hinckley and Bosworth, there are extensive dairies, in which cheese is made in large quantities. The great staple article of export from Leicestershire is wool. The sheep are distinguished into two breeds, the old and the new; the former are large and heavy with plenty of wool, but of an inferior quality. The new, called also the Dishly breed, from the name of the farm on which they were first introduced, is so much superior in every respect to the old, that very few of the latter are now reared in the county, the wool being coarse and the mutton little esteemed. The Leicester wool is peculiarly adapted for the Yorkshire trade, and but little of it is used in the Leicester manufacture. The Leicester hogs are an excellent breed.

This county is divided into six hundreds, containing 308 parishes, and 11 market-towns. It is also divided into north and south divisions, each of which sends two members to Parliament.

The northern division comprises,—hundreds: West Goscote, East Goscote, Framland, and the two detached

* See p. 33.

portions of Gartree hundred, which are to the north-east of East Goscote.

The southern division comprises,—hundreds: Gartree, (except as above,) Sparkenhoe, Guthlaxton, and also the borough of Leicester, and the liberties thereof.

Leicester, a borough by prescription, the capital of the county, the assize town, and likewise the election town for the south division, is situated in the centre of the basin of the Soar, and on that river: it is 80 miles north-west of London. It is also a parliamentary borough, and sends two members to the House of Commons; by the Boundary Act the franchise has been extended from the municipal borough to its liberties, and also to what is called the Castle View; the municipal borough is at present coextensive with the town. Leicester is a town of great antiquity. In the time of the Britons it was the capital of the country of the Coritani; and the Roman station of Ratæ was situated on this spot, as we see from the Itineraries of Antoninus. This evidence of its having been a Roman station is confirmed by numerous antiquities found in and about the town.

Leicester was a city of some note in the time of the Saxons: the Normans found it a very populous and flourishing place, and it has always maintained a respectable position since that time among English towns. It suffered considerably during most of the civil wars which have agitated the kingdom, and more especially in the contests between the royalists and the parliament in the seventeenth century, when it was stormed by the king's army.

By its position on the Soar, which gives it a water communication with the Trent, and thence with the Mersey, and by the Union canal, which communicates with the Grand Junction, Leicester has the means of water-communication with all parts of England. The town is on the east side of the river, and consists of one long street and several parallel ones intersecting it. The old buildings have been mostly replaced by modern red brick houses, the number of which is constantly on the increase; but the present style of building is in singularly bad taste. Six centuries ago there were nine parish churches, but till lately there were only five, most of which are of ancient date. Three new churches have recently been erected, one of which is not yet opened. There are likewise places of public worship for various other denominations of Christians. A new county gaol was erected in 1791 on the plan of Howard. The town gaol is a stone building, which has been recently rebuilt, but is said to be ill suited for its purpose. At the south end of the town is an infirmary and a lunatic asylum. The Exchange, a plain building, stands in the open area of the market-place. A handsome modern structure, called "The Hotel," was originally intended for a coffee-house, &c., but it is now appropriated to assembly rooms, and a library: adjoining this building is the theatre. There is a free grammar-school, said to be originally founded by Thomas Wigstan; it was considerably enlarged, and almost re-established in 1573, when a new school-house was erected. There are several other public schools in the town; and two proprietary schools have been established within the last few years. On the south-east of the town is a broad public walk, extending nearly three-quarters of a mile. In a meadow adjoining the town are the ruins of the abbey of Mary Pré, or De Pratis, founded for Black or Augustinian canons, by Robert Bossu, Earl of Leicester, in 1143. In this abbey Cardinal Wolsey died. There was formerly a castle of great extent in the town, but there are now scarcely any remains of it. Leicester had formerly a mint, which stood near the north bridge, and a regular series of coins from this mint has been preserved from the reign of the Saxon King Athelstan down to Henry II. The chief manufacture of Leicester is the converting of wool into stockings. Cotton hose is also made, but not in such quantity as worsted. This manufacture is more largely carried on here than in any other town of the kingdom except Nottingham, where goods of a finer quality are made. Several thousand persons are occupied in the various branches of industry required for bringing the raw material into the shape of stockings, such as wool-combing, spinning, dyeing, making the texture, and forming it into stockings. Worsted thread and cotton thread, and worsted gloves are also manufactured to a considerable extent. Supplementary to these are the trades of frame-smiths, comb-makers, winders, sizers, needle-makers, &c. There are numerous master hosiers, and more than thirteen thousand stocking frames. With such facilities for carrying them

on, the trade and manufactures of Leicester have been greatly extended within the last thirty years, and the population has proportionably increased, being computed to be now upwards of 60,000, which is considerably more than three times what it was in 1801.

Market Harborough, a market-town, on the south-east border of the county, is on the west bank of the river Welland, which divides it from Northamptonshire, and 14 miles south-east of Leicester. Market Harborough has the advantage of extensive water communication, and being on a high road to Leicester, Derby, and Manchester is a great thoroughfare. It consists of one principal street and two or three smaller ones, and has been much improved and increased within the last 30 years. It has a large church, besides three meeting-houses for dissenters. Near the church is a charity-school, and in the principal street is a large town-hall. There is a considerable manufacture of tammies, lutestrings, &c. Harborough is one of the polling places for the south division of the county.

Lutterworth is a market-town in the south part of the county, and like Market Harborough without the basin of the Soar. It stands on the Swift, a branch of the Avon, 13 miles south of Leicester. The principal business of the town is the manufacture of cotton and of stockings. From the pulpit of the church of this town Wickliffe poured forth his eloquent and fearless attacks against the abuses of the Church. The pulpit is carefully preserved; and the chair in which the great reformer died is still kept as a sacred relic.

Hinckley, also another polling place for the south division, is a market-town, pleasantly situated on the south-west, near the borders of Warwickshire, from which it is divided by the old Roman Watling-street. It is 12 miles south-west of Leicester. The town stands on high ground, and commands an extensive view. From the vestiges of an ancient wall and fosse it, would appear that this place was once of much greater extent. Besides the church there are several meeting-houses for dissenters. Hinckley contains very large stocking factories, and likewise manufactures of coarse cotton, thread, and worsted.

Market-Bosworth stands on an eminence 11 miles west of Leicester. About three miles from the town is Bosworth field, the scene of the decisive battle between the houses of York and Lancaster, in which Richard III. lost his life. There is a free grammar-school at Market-Bosworth, founded by Sir Wolstan Dixie, once lord mayor of London.

Belvoir Castle, the magnificent seat of the Duke of Rutland, is situated in the north-eastern angle of the county. It is built in the form of a quadrangle, which surrounds a court. The collection of pictures is considered to be valuable. The park, consisting of woodland, meadow, and pasture land, comprises 600 acres.

Loughborough, the election town for the northern division, is situated near the river Soar, 10 miles north by west of Leicester. Its population, as well as that of Leicester, has greatly increased in the last 30 years. Loughborough has the same advantage of inland navigation that we have already noticed with respect to Leicester, and in consequence of this and other causes its trade and manufactures have very much increased. It has a considerable trade in coals, which are brought from the Ashby coal field; and large factories for making stockings and spinning cotton. The town consists of one principal street with four smaller ones intersecting it at right angles. Many of the houses are old and irregular, but great improvements have lately been made in the town. The church is a large building, besides which there are four meeting-houses for dissenters; a well endowed free-grammar school, and two other charity schools.

Melton Mowbray, a market-town in the north-east part of the county, is on the river Wreak, over which there are two stone bridges. It is 14 miles north-east of Leicester. This town is one of the polling places for the north division of the county. It has of late years been much improved and enlarged. The church is a handsome Gothic structure, and there is a well endowed free-school. There is a large market for cattle and provisions. Melton has water communication with Leicester by the Wreak and Soar, and with Oakham by the canal above mentioned. Melton is much resorted to in the hunting season by those who are fond of field sports, for which the county of Leicester is peculiarly well adapted.

Mount Sorel is a market-town, situated on the Soar between Loughborough and Leicester, and seven miles north of

the latter place. The town is built on a steep hill rising from the river, and hence, according to Camden, its name, Mount Soare-hill. There were formerly two chapels here, but at present there is only one. In the vicinity of the town is a quarry of remarkably hard stone, of which many of the houses are built, and the streets also are paved with it. This stone is sent in considerable quantities to many distant places, and even to London, it being considered equal for paving purposes to the best Scotch paving stone. Limestone is also found here and forms an article of export.

Ashby-de-la-Zouch is a market-town, in the north-west part of the county on the borders of Derbyshire, 16 miles from Leicester. It has a hat and a cotton factory; barley is also malted here. There are coal-pits in the neighbourhood of the town, from which large quantities of coal are conveyed by the railways and canal already described. The church is a handsome building; besides which there are two dissenting chapels. There are two free schools; one founded in 1567 and the other in 1600. There is a mineral spring in the neighbourhood. Ashby is one of the polling places of the county. Ashby had formerly a fine castle built by Sir William Hastings in 1474, remarkable for its magnitude and strength. There are still some considerable remains of this building. This castle was besieged in the civil war by the Parliamentary forces, and after its surrender was dismantled. Mary Queen of Scotland was confined here while she was in the custody of the Earl of Huntingdon.

Population of the market-towns of Leicestershire:

Leicester (T)	39,306*
Melton Mowbray (P) .	3,520
Waltham (P)........	653
Mount Sorel (C)	1,602
Loughborough (P) ...	10,969
Ashby-de-la-Zouch (P)	4,727
Hinckley (P)........	7,180
Bosworth (P)........	2,530
Lutterworth (P)	2,262
Market-Harborough (C)	2,272
Hallaton (P)........	653
Kegworth (P)	1,821

N.B. T stands for town, P for parish, C for chapelry.

* This number is taken from the census of 1831; that given in the account of Leicester shows the computed increase between that time and the present time.

Authorities.

Throsby's History of Leicester.
Nichols's History of Leicestershire.
Monk's Agriculture of Leicester.

RUTLANDSHIRE

Is an inland county, and the smallest in England; it is bounded by Leicestershire on the west and north, Lincolnshire on the north and east, and Northamptonshire on the south-east and south. It is about 18 miles long from north to south, 15 miles from east to west, about 60 miles in circumference, and contains 149 square miles. The aspect of the county is pleasing, being diversified by gentle elevations, running east and west in a general direction, and with open valleys. In the north-west part of the county is the vale of Catmose, an extensive and fertile tract. In the neighbourhood of Oakham the ground rises, and from Burleigh Hill it becomes an extensive plain or table-land, running nearly due north till it leaves the county a little beyond Market Overton. On the south-west there is also some high land extending from Uppingham northwards to near Braunston Lodge. This high ground commands extensive views of the neighbouring country. In the south part of the county is an extensive open valley, which is part of the basin of the Welland. The western parts of the county, and also the remains of the ancient forest of Leafield, are pretty well wooded. The soil of this county consists of different kinds of clay, white stony land, and hazel earth. On the east and south-east the staple soil is shallow on limestone rock, but most of the other parts are of a strong loam on a substratum of blue clay. The most prevalent soil is a strong reddish loam, from which circumstance it is supposed the county took its name. The cause of this peculiarity is ascribed to the presence of iron, which always gives to the earth a red tinge; a fact that is further shown in this instance by chalybeate springs, which abound all through the county. Ironstone has not, however, been discovered in any quantity.

Rutlandshire is purely an agricultural county; and barley is the principal crop. The land is well watered for agricultural purposes by springs and ponds. The only rivers of any note are the Guash and the Welland; the former,

which crosses the county from west to east, takes its rise in Leicestershire, and falls into the Welland in Lincolnshire. The Welland has already been described in the account of Northamptonshire, as forming the south-east boundary of Rutlandshire. The Eye forms the south-west boundary from its junction with the Welland to Finchley bridge, where it enters this county from Leicestershire. There are other smaller streams, which afford abundance of fish. The Oakham Canal has been of great benefit to this county in effecting a more ready communication with the other parts of England. It was begun in 1793 and completed in 10 years. It begins in the vicinity of Melton Mowbray in Leicestershire, and continues in a general south-east, but winding course, to Oakham.

This county is divided into five hundreds, containing 49 parishes and two market-towns. The hundreds are Wrangdyke, East-hundred, Alstoe, Oakham Soke, and Martinsley. The county sends two members to Parliament.

Oakham, the county and assize town and place of election, situated in the valley of Catmose, is 95 miles north by west of London. There are the remains of a castle built in the reign of William I.; the hall, which is supposed to have belonged to it, has been kept in repair, and is now used for transacting the public business of the county. But this building is by some antiquarians considered to be of less remote antiquity than the castle, and never to have formed a part of it. Different styles of architecture are observable in this hall: the entrance door is Saxon, other parts Gothic, and some of modern date. This town has a fine church with a lofty spire, a free-school, a charity-school, and an hospital. An Agricultural Association, recently established here, have determined to erect a handsome building for their meetings, with convenient reading rooms and a library of agricultural works.

Uppingham, the other market-town of this county, is six miles south of Oakham, and is a well-built town, consisting chiefly of one street. It has a handsome Gothic church and a free-school.

Population of the market-towns of Rutlandshire:—

Oakham	2,440
Uppingham	1,757

Authorities.

Crutchley's General View of the Agriculture of Rutland.

LINCOLNSHIRE

Is a maritime county on the eastern coast. It is bounded on the south by Cambridgeshire, Northamptonshire, and Rutlandshire; on the west by Leicestershire, Nottinghamshire, and part of Yorkshire; on the north by the Humber, which separates it from Yorkshire; and on the east by the North Sea. Its greatest length from north to south is about 75 miles, and from east to west 45 miles: its circuit is about 245 miles, and its area is 2748 square miles. Next to Yorkshire it is the largest county in the kingdom; but its relative population is below that of any other county, except Westmoreland, Cumberland, and Northumberland. The coast-line of Lincolnshire is about 110 miles, including the Humber, from the mouth of the Trent on the north-west, to Sutton Washway on the south-east, the whole of which is low and flat, except at Clea Ness near Grimsby, where the cliffs are high and bold. A great part of this county, which is contiguous to the sea, was once unproductive marsh, but it has been gradually reclaimed, and, being now protected from inundations by great embankments, it forms one of the richest tracts in the kingdom. This marsh land stretches from the sea to a considerable extent on each side of the river Witham, and also along the course of the Ancholme, and along the whole line of coast except at Clea Ness. It also borders the Trent at least as far as Gainsborough, and occupies the district called Thorn Level, on the west side of that river. The marshy tract which extends over a considerable part of the southern division of the county, belongs to the great fen district. This tract, which includes the marsh lands on the lower course of the Witham, may be roughly defined by a line drawn from Wainfleet on the coast to Tattershall, and thence to a point on the Welland, midway between Stamford and Market Deeping; it comprehends a portion of those divisions of the county called Lindsey and Kesteven, and the whole of what is appropriately called Holland, that is, a hollow or low land, which in physical character resembles the Dutch province of the same name.

Besides these fens the surface of the county may be distinguished into two other divisions. The Wolds or Chalk Downs extend about 46 miles, commencing near Burgh on the south-east, and running in a north-westerly direction to Barton on the Humber; they are on an average about eight miles in breadth. The escarpment of the Wolds is on the west side, and overlooks the valley of the Ancholme. A range of high ground connected with the Wolds on the north-west, near Market Rasen, runs from that place to Spilsby; this range is composed of the green sand and the wealden formation. The depression which forms the basin of the Ancholme is bounded on the west by the lower oolitic strata, which form a range of high land running from the Humber to Lincoln, with its steep side turned to the basin of the Trent: the highest part of this range has the appearance of a table-land, and is traversed by the Ermine Street which runs in one undeviating line from Lincoln to the Humber. At Lincoln there is a narrow depression in the high land through which the Witham flows; but south of that point this elevated oolitic range is continued past Grantham to the banks of the Welland.* From Lincoln, also, the escarpment is on the west, and overlooks the upper valley of the Witham. A range of about 20 villages, lying within the 24 miles from Lincoln to Grantham, is called the Cliff Row; the name of Cliff being appropriated to the high ground on which they stand. The high land that runs to Sleaford, which forms part of the range south of Lincoln, is sometimes called the Heaths. West of the oolite formation the lias occupies a tract on the east side of the Trent, which widens as it advances further south. The new red sandstone occupies the rest of the county on the east side of the Trent, and the Isle of Axholme, which is on the west side of that river.

The principal rivers of Lincolnshire are the Trent, the Welland, the Witham, the Glen, and the Ancholme. The Trent forms the north-west boundary from Dunham to Stockwith, from which place it runs north to Aldborough, opposite to which it receives the water of the Don, and a little below is joined by the Ouse; the united stream then takes the name of Humber. The Welland forms the southern boundary from Stamford to Crowland, and, continuing its course to the north, it passes by Spalding, and about seven miles north-east of that town empties itself into the Wash. The Witham rises on the borders of Rutlandshire, on Witham Common near Stamford, and, taking a northerly direction, passes Grantham; a little below Grantham its course is on the west side of the high lands, described under the general name of the Cliff, as far as Lincoln, where it enters the depression in these high lands, and turning east and south-east enters the flat lands between the Heaths and the Wolds. Its course through these fens is south-east to Boston, a few miles below which it enters the sea at Boston Deep. The Glen rises some miles to the east of Grantham, and, pursuing a very winding course, joins the Welland near its mouth. The Ancholme has its source at the village of Fillingham near Spittal, six or eight miles from Market Rasen, in the depression between the Wolds and the oolitic range, and passing by Glamford Briggs, now called Briggs, falls into the Humber, some miles below the junction of the Ouse and Trent. It appears, then, that a small part of the county belongs to the basin of the Trent and the Humber, but that the greater part lies within the low and marshy basin of the Wash.

Various canals have been formed in this county, and others are now being projected. The channels of the rivers, also, have been cleared and cut straight, so that there is now an extensive inland navigation. Vessels of 200 tons burthen can ascend the Trent as far as Gainsborough, up to which place the tide is very perceptible, and boats can navigate to Newark, Nottingham, and Derby. Vessels of 50 or 60 tons go up the Welland as far as Spalding, and thence the river has been made navigable as far as Stamford. The Witham, on which several steam-boats ply, has been made navigable by an artificial channel from Boston nearly to Tattershall, and thence by its natural channel to Lincoln; the length of navigation was about 38 miles, but has been shortened by cuts made a few years ago to about 33 miles. At Lincoln the Witham communicates with the Foss Dyke, which was cut in the reign of Henry I.* Some antiquarians, indeed, suppose that this was the work

* See Stukeley's letter to Francis Drake; p. 31 of Drake's History of the Antiquities of York.

of the Romans, and that it was only cleared out by Henry I. The Foss Dyke joins the Trent at Torksey, and thus a communication is effected between Boston and the whole basin of the Trent and Ouse, which again is connected by canals with the manufacturing districts of Lancashire. Near Tattershall a navigable branch extends from the Witham to Horncastle on the north, and three miles south of Tattershall another branch communicates with Sleaford on the south-west. The Ancholme has been made navigable by straight cutting as far up as Bishops Briggs near Market Rasen: and the improved navigation gives out a branch to the east from near North Kelsey to Caistor. A canal from Grantham communicates with the Trent at Nottingham, by a very circuitous course of 30 miles; and from Louth a canal communicates with the coast. In the south part of the county, in the district which forms the basin of the Witham and lies around the Wash, numerous cuts have been made for the purpose of drainage. The sea-coast being in general low and flat, and much encumbered by sand-banks, is extremely unfavourable to navigation. It can hardly be said there is a port, properly so called, except Grimsby Harbour, the wet docks of which are noticed in the account of the town.

The district called the Heaths was formerly barren, but it is now mostly enclosed and cultivated, and comprises some of the finest land in the county. In the depression between the oolite range and the Wolds is a tract of land of various soil, and in some particular spots of considerable fertility; the valley of the Ancholme and part of the valley of the lower Witham lie in this depression. The soil of the Heaths is a sandy loam. That of the Wolds is loam, intermixed with sand and silex, on a calcareous substratum. On the eastern side of the Wolds the fens form a district called the Marsh, varying in breadth from 8 to 10 miles, and extending from Wainfleet to the Humber. This district is secured from the encroachment of the sea by embankments of earth, and is divided into north, middle, and south marshes, each distinguished by a marked difference of soil. The north consists of rich salt lands, very valuable as grazing marshes; the intervening middle piece is a rich brown loam, and the soil of the south is composed of a stiff cold clay of very inferior quality. On the south of the Marsh the low land extends much further inland, and is the northern termination of the great fenny district which spreads into Norfolk, Cambridgeshire, Bedfordshire, and Huntingdonshire. This is in general rich fertile pasture land. It is estimated that the low lands comprise 776,960 acres; the wolds 234,880; the heaths 118,400; and the other parts 718,080 acres.*

Lincolnshire is chiefly distinguished as a grazing county, and for rearing sheep and cattle of great weight and size. The number of sheep bred here is very large. The business of the dairy is but little attended to, the farmer being principally engaged in rearing and fattening sheep and cattle. In the summer season the fens round Boston are covered with cows and sheep, but in the winter most of the land is overflowed, and presents a vast expanse of water or ice; great quantities of wild fowl resort to the fens at this season. Some of the unimproved fens are used for the breeding and rearing of geese, which bring in a great profit on these lands where nothing else will thrive. Besides the flesh, the feathers and quills are of considerable value, and are sent in large quantities to London. Owing to the increase of draining, however, there is less overflowing, and fewer geese are reared than formerly. An immense number of wild fowl is caught in the fens by decoys. In the Wolds a fine breed of horses is reared. The rabbit warrens are not so extensive as formerly, in consequence of the increase of tillage. In the high lands all the usual kinds of grain are raised; in the low lands oats form the principal crop; rape, hemp, flax, and woad are likewise cultivated.

The climate was formerly not very salubrious in the low lands, being very damp and productive of ague. Since a better system of drainage has been applied to them they are, however, considered less unhealthy, and ague is almost entirely banished.

The British Ermine-street, afterwards adopted by the Romans, and the Foss-way intersect this county.

Lincolnshire is divided into 31 wapentakes and hundreds, comprising 687 parishes and 31 market-towns, some of which are in a state of decay. It has been usual likewise to separate these hun-

* Young's Agricultural Survey.

dreds into three divisions—Lindsey on the north, Kesteven on the south-west, and Holland on the south-east, but it will be more convenient for the purpose of this description to separate the hundreds into their present political divisions of north and south, each of which is represented in Parliament by two members.

The north division, or Lindsey, comprises—Manley, Yarborough, Corringham, Aslacoe, Walshcroft, Bradley, Ludborough, Well, Lawress, Wraggoe, Gartree, Louthesk, Calceworth, Horncastle, Hill, Bolingbroke, Candleshoe, and Lincoln liberty.

The south division comprises—Boothby, Langoe, Loveden, Flaxwell, Winnibriggs, Grantham, Aswardhurn, Aveland, Beltisloe, Ness, Skirbeck, Kirton, Holland Elloe.

Lincoln, an ancient city and the county and assize town of Lincolnshire, 108 miles direct distance north of London, is situated principally on the north bank of the Witham, on an eminence which rises rather abruptly from the river, which, as already observed, here enters a depression in the high lands. It is a place of great antiquity; the Roman station, *Lindum*, is generally admitted to have been on this site. From the Doomsday survey, Lincoln appears at that time to have been one of the richest and most populous cities in the kingdom, and a great emporium of trade. At that time it contained 1070 houses and 900 burgesses. It is the see of a bishop, and the diocese, though reduced from its former magnitude, is still the most extensive in the kingdom. Considerable alterations are, however, to be made in the parts comprised within this diocese under 6 and 7 Wm. IV. c. 77. But the ancient splendour of Lincoln is now gone. At present it consists of two principal streets, with some smaller streets running parallel, and others intersecting them. It is well paved and lighted, and contains some good modern houses. On the north side of the town, situated on the margin of the high land which stretches northwards to the Humber, stands the magnificent cathedral, which, in a county like Lincoln, is a striking object, and is visible at a distance of 20 miles. This cathedral was begun in the 11th century, but great varieties in style are observed in it; and three distinct and distant æras can be traced in its architecture,—that of the century in which it was commenced, and those of the 12th and 14th centuries. It consists of a nave with its aisles, a transept at the west end, and two other transepts, a choir, chancel, and three oratories or private chapels. The cathedral is 524 feet long and in width 80 feet, and is 80 feet in height to the vaulting of the nave; the great transept is 250 feet long. There are three towers; of which the central tower is 300 feet high. The western front is distinguished for its beauty and magnificence. Attached to the eastern side of the cathedral is the chapter-house, which is a beautiful specimen of this class of buildings. The cloisters are connected with the cathedral on the north side, and over part of them is the library, which contains a large collection of books with some curious specimens of Roman antiquities. The great cathedral bell, called "Great Tom of Lincoln," was cast in 1610: being cracked, it was broken up in 1834, with six other bells, and recast into the present large bell and two quarter bells by Mr. Thomas Mears of London. The new bell weighs 5 tons 8 cwts., being about a ton heavier than the old one: it is 6 feet 10½ inches diameter at the mouth. Though not so loud or sonorous as the old bell, the new one is much more musical. At the time of the dissolution this cathedral was considered one of the finest and richest in the kingdom.[k] Henry VIII. stripped it of an immense quantity of precious stones and of gold and silver. During the civil wars of the 17th century this beautiful building was converted into barracks, and many of its monuments and ornaments were displaced. Lincoln formerly possessed 50 churches besides the cathedral, but the number is now reduced to 12. There are places of worship for almost all denominations of Christians. On the east side of the town is the city gaol, and further north is the county hospital, which has the advantage of an elevated and healthy situation. There is a lunatic asylum and other charitable institutions; a national school, and several charity schools; a library, a theatre, and assembly rooms, and flourishing mechanics' institute. There is a fine race-course a little to the west of the town. Between it and the town is a grand military depôt, or magazine of arms, erected about 1808, and now dismantled. Numerous vestiges of the antiquity of Lincoln still remain in

A desciption and view of this cathedral are en in Dugdale's Monasticon Anglicanum, and in Britton's Account of the Cathedral of Lincoln.

its specimens of Roman, Saxon, Norman, and English architecture.

The old city of Lincoln contains 12 entire parishes and part of a thirteenth. Lincoln was erected into a county about the time of Henry IV., and four outlying parishes were added to it in the reign of Edward IV. Within the city boundary are two precincts, adjoining each other, called the Bail and Close. The former comprehends the demesne of the ancient castle, the latter the cathedral precincts. These, before the passing of the Municipal Corporation Act in 1835, were not within the jurisdiction of the civic authorities, but formed part of the county of Lincoln. The site of the castle has been recently sold to the county, and now contains the county gaol and court-house, which were rebuilt a few years ago in a handsome style by Sir R. Smirke. A large open field on the south-east of the city, called Canwick Common, was assigned to the freemen of the city in 1803 by Act of Parliament, in lieu of all right of common in Canwick parish. This field is included in the city boundary. The trade consists chiefly in exporting the agricultural produce of the surrounding country, and receiving commodities for home consumption. Large quantities of flour are sent to Manchester and London. There are some manufactories of leather and tobacco, and several extensive breweries noted for their ale. A few years ago there was not a steam engine in the town, and now there are eight or ten. By the Foss Dyke it has an extensive inland navigation to the west, and by the Witham it communicates with the sea on the east. Lincoln sends two members to Parliament. It is also the election town for the north division, and, under the Municipal Reform Act, is divided into two wards.

Grimsby, a market and sea-port town 30 miles north-east of Lincoln, was once a good port, and enjoyed considerable trade, but the harbour becoming choked up, the place sunk into insignificance, and, in 1796, it contained only 855 inhabitants. Since that time a new harbour, a very splendid work, has been excavated; this undertaking was completed in 1804. This harbour consists of extensive wet docks connected with the mouth of the Humber, in the tide-way of that river, by a very large cut one mile and a-half long, calculated to admit ships of 1000 tons burthen. The depth of water in the canal is 20 feet; it communicates with the docks by one lock of large dimensions. With such a haven, expectations were entertained that Grimsby would more than rival Hull as a port, but though improved in its condition the new harbour has not answered these sanguine expectations. The landing at low water is still very bad, but there is a jetty now in course of erection, which, it is hoped, will remedy this inconvenience. The town may be considered as consisting of two portions; the old town is an irregular cluster of houses at the head of the harbour, a mile or more from the sea; the new part has been built since the excavation of the harbour, and consists of three streets on the east side of, and parallel to, the harbour. The church is a large and handsome building, in the form of a cross, with a tower in the centre. There are two mills for grinding bones, and a tan-yard; but there are no manufactures of importance at present. An immense ropery is built on the sea-shore to the east of the harbour, by a company formed for manufacturing patent cordage from the *Phormium tenax*, or New Zealand hemp, but it is not very successful. Grimsby is a very ancient borough, and, till the Reform Act, was represented by two members in Parliament; the number is now reduced to one; and the limits of the borough are much enlarged. Grimsby is a polling-place for the county.

Barton, 32 miles north of Lincoln, another polling-place, is situated about three-quarters of a mile from the south side of the Humber. It communicates with Hull by means of steam-boats, and is the place where the old northern road passes the Humber to Hull. There are several good inns in the town, and the streets are mostly well built. The town contains two churches, and carries on a considerable trade in corn, bricks, and tiles; there is also an extensive manufacture of cordage. Barton was once a fortified town, surrounded by a rampart and fosse, the remains of which are still to be seen, and are distinguished as the "Castle Dykes." At the time of the Conquest, Barton was one of the principal ports of the Humber.

Glamford Briggs, another polling-place, and a market-town, 23 miles north of Lincoln, is situated near the river Ancholme, which is navigable from the Humber, and by which some trade is carried on. The river is crossed by a stone bridge. The place contains a neat chapel of ease

Wragby, 10 miles E.N.E. of Lincoln, is a pleasant little market-town, which contains some good buildings. A new church was lately built here by Mr. Turner, the proprietor of the town, which for beauty and elegance is not surpassed in the county. There is a free-school founded in 1633; and also an almshouse for clergymen's widows.

Gainsborough, another polling place, 15 miles north-west of Lincoln, is on the east bank of the Trent, about 20 miles above its junction with the Humber. From its position on a navigable river, its central situation, and its connection with the inland canal navigation, Gainsborough possesses great advantages for trade, which it carries on, to and from Manchester, Liverpool, Gloucester, and Bristol, on the west, and through the Trent and the Foss Dyke with Boston on the east. The town consists almost entirely of one long street, running parallel to the river; it is dirty and ill-paved. None of the public buildings are worthy of much remark. The church is a modern building: there are several meeting-houses and some good charity-schools. The town-hall is of brick, with shops under it: the theatre is a small edifice, forming part of the old hall. There is a handsome stone bridge over the Trent. About half a mile to the north of the town are some mounds, termed the Castle hills, supposed to be the remains of a Roman camp. The suburbs of the town are fast improving.

Epworth, 23 miles north-west of Lincoln, in that part of the county which is west of the Trent, is a small, straggling, irregularly built town. It has a manufacture of sacking and bagging.

Kirton, a small town, 17 miles north of Lincoln, is beautifully situated on the summit of a hill. It has a fine old church of early English architecture, and a well endowed grammar-school. The market place is large, and the bridewell is a good building.

Castor or Caistor, 20 miles north-east of Lincoln, is an ancient place, said to have been founded by the Saxons; but its name and the traces of Roman constructions, formerly seen there, indicate a Roman origin. It has an old church. A canal, four miles in length, joins this town to the Ancholme cut.

Market Rasen is a market-town, 13½ miles north-east of Lincoln. Besides the church, it has a Catholic chapel and a meeting-house. There is also a small free-school.

Louth, a borough and market-town, 24 miles E.N.E. of Lincoln, on the river Lud, has considerable and increasing trade by means of the canal which runs from this place to the sea. Louth is a neat town, and the situation is healthy. The church is a large and handsome building, with one of the most beautiful towers in the county, surmounted by an octangular spire, and of a total height of 290 feet. There are also three meeting-houses for dissenters. The free grammar-school was founded by Edward VI.;* and there is also a mathematical and English school, endowed for 20 free scholars. The other public buildings are the mansion-house, the town-hall, sessions house, and a theatre. The principal manufactories are a carpet and blanket manufactory, a large soap manufactory, and a paper-mill. Louth is noted for its excellent ale.

Horncastle, a well-built market-town, 17 miles east of Lincoln, is situated on the river Bain, and also nearly surrounded by other small streams. It is supposed to be the site of an ancient Roman encampment. It contains a public dispensary and various schools. Tanning is the principal business of the town; and there are three large fairs in the year. The river has been made navigable from Horncastle to its junction with the Witham.

Bolingbroke, a small town, 22 miles south-east of Lincoln, has a considerable manufactory of earthenware.

Spilsby, 26 miles east of Lincoln, consists chiefly of four streets, uniting in the market place, and forming a spacious quadrangular area, in the centre of which there is a row of houses, with the market-cross at the east, and the town-hall at the west end. The parish-church is an irregular building. Spilsby has a small free-school and several other schools.

Wainfleet is a market-town, situated on a navigable creek of the sea, 33 miles E.S.E. of Lincoln. The town is neat and well built; it has two churches, one of which is now going to decay. The free grammar-school was founded in the year 1459.

Tattershall, 17 miles south-east of Lincoln, is a small town in a marshy

* This grammar-school is somewhat peculiar in its constitution, and is made a special exception out of the Municipal Corporation Act., Section 136.

situation, on the river Bain, about two miles above its confluence with the Witham. The church is a large cross building in a good style of architecture, but much injured by time. Near Tattershall are the remains of a castle, situated on a level moor, and surrounded by two great fosses. Mineral waters have lately been discovered at Woodhall, between Tattershall and Horncastle, which are coming into repute. Handsome baths have been built, and an hotel is in course of erection.

Boston, 27½ miles south-east of Lincoln, is the principal town of the southern division of the county. It is situated on both sides of the river Witham, five miles from its mouth: and as this river forms a considerable æstuary, Boston may be almost considered a sea-port. It communicates by inland navigation with Lincoln, Gainsborough, Nottingham, Derby, and the interior of the kingdom. Many cuts have been made about this town for the draining of the surrounding fens, which are now enclosed and converted into rich pasturage. Boston is a respectable looki... chiefly in exporting the agric... ...ing town, well paved, watched, and lighted. The existence of a church here is recorded so early as 1090. The present parish-church is a noble structure, erected in the beginning of the 14th century, and supposed to be the largest without transepts in England; it is 300 feet in length and 100 in breadth within the walls; the tower, which is 286 feet high, serves as a good land-mark. Besides the church, there is a chapel of ease, built by subscription in 1822, and five meeting-houses for dissenters. There is also a grammar-school, founded in 1567, two charity-schools, and two on the Lancasterian and national systems. Charities for the poor freemen and apprentices, a Dorcas charity, and a Bible society, are the principal charitable institutions of the town. The market-place is spacious: the theatre is a new and commodious building; and there are two public subscription libraries well supported. The trade of this town is very prosperous: it exports large quantities of oats, the produce of the surrounding country, and has an increasing trade to the Baltic. An abundant supply of fish is obtained from the neighbouring coast: the shrimps which are caught here are sent in great abundance to the metropolis, and are considered of a very superior quality. The town contains some manufactures of sail-cloth, canvas, and sacking, also iron and brass foundries. A handsome iron bridge of one arch was erected over the Witham in 1804, to replace an old and inconvenient wooden one. Boston is a corporate town, and also sends two members to parliament. Under the Municipal Act it is divided into three wards, with six aldermen and 18 councillors. It is also a polling-place for the southern division of the county.

Grantham, on the river Witham, is 22 miles south by west of Lincoln, and on the great road from London to York. It is situated near the ancient Roman road called Ermine-street. This town sends two members to parliament. Grantham principally consists of four streets, which are well paved, and lighted with gas. It has an elegant stone church, with a spire 273 feet high. Newton is said to have gone to the grammar-school of Grantham in his youth. Woolsthorpe, about eight miles from Grantham, was his birth-place. There are also two Lancasterian schools and a charity-school. In the vicinity is a mild chalybeate spring. The town has some trade in malt, corn, and coal, by means of the canal already mentioned. A paper-mill is the only manufactory of importance.

Stamford is situated 40 miles south of Lincoln, on the slope of a hill, on the north bank of the Welland, in the south-western angle of the county: a small part of the town is in Northamptonshire, on the south bank of the river. The town is large, but irregularly built; most of the houses are of freestone, and covered with slate. It contains six parish-churches, several of which are very beautiful. There are a free-school, two charity-schools, and a national school, and likewise several charitable institutions. The present town-hall was erected in 1776. St. Michael's, the oldest of the churches, stands near the centre of the town: the most ancient part of it was in existence before the year 1230. It consists of a nave and choir, with north and south aisles, and chancels extending beyond the aisles. About two years ago, in consequence of the removal of some pillars for the purpose of repairs, the body of St. Michael's church fell during the night; it has since been rebuilt and greatly improved. St. Mary's is supposed to have been built about the latter end of the 13th

century on the site of one of much more ancient date. St. George's church is a plain building, with a rectangular embattled tower at the west end. It was rebuilt in 1450 by William Bruges, the first Garter king-at-arms. All-Saints church is large and well proportioned; the steeple, which rises at the west end of the north aisle, is lofty and handsome, with octagonal turrets at the corners, and surmounted by a spire of similar form. St. John's church, rebuilt in the middle of the 15th century, consists of a nave and two aisles, with a chancel at the east end of the first, and separated from it by elegant screen work. The roof is ornamented with figures carved in wood and stone, and the windows have some fine specimens of stained glass. St. Martin's is a large handsome building with a square tower. It contains several fine monuments, among which is a splendid one of William Cecil, Lord Burleigh. Stamford was formerly the seat of several monastic establishments: in the reign of Henry III. the Carmelites had a monastery here, and gave public lectures on divinity and the liberal arts. Other religious houses were also converted into schools, and this place became noted for superior literary instruction. Among these public schools was Brazen-nose college, which was taken down in 1668, and a charity-school erected in its place. It is supposed to have given its name to the Oxford college bearing the same title. A small theatre and spacious assembly rooms are among the public buildings. The river is navigable to this town for boats and barges, and some trade is carried on in coals, malt, and freestone. Stamford is a borough included within the Municipal Corporation Act: it sends two members to parliament.

Spalding is a place of great antiquity, 34 miles S.S.E. of Lincoln, on the Welland. This river has been made navigable to Spalding for vessels of from 40 to 60 tons burden, which come up to the centre of the town, where there are convenient quays for landing goods and large storehouses. A considerable trade is carried on with London, Hull, Lynn, and other places. This town is situated in a very marshy district, which is intersected by numerous cuts made for the purpose of drainage. The houses are neat and the streets clean. The church is an old and spacious edifice, with a fine tower and spire; there are also five other places of public worship. Spalding has a free grammar-school, founded in the reign of Elizabeth. Another, called "Willesby's school," was founded and endowed in 1682 by Thomas Willesby, Esq. Bentley was master of the grammar-school in this town in the year 1682, but after holding the office for a year, he resigned it to become private tutor to the son of Dr. Stillingfleet. There is also a charity-school, called the Bluecoat-school. The market-place, which is large and convenient, contains the town-hall. The upper apartments are used for the business of the district and for assembly rooms. The town contains a theatre and a gaol. No manufactures of any consequence are carried on here.

Crowland or Croyland, 41 miles S.S.E. of Lincoln, is situated on a kind of island amidst the fens. In early times a hermit erected his cell here as a spot most favourable to seclusion, and this humble religious dwelling was by degrees converted into an abbey richly endowed. At the time of the dissolution, this abbey was partly destroyed, but there are still some remains of the church which indicate its former magnificence. The triangular bridge of Crowland is constructed of three half arches which meet in the centre, and have so steep a road-way, as to be almost impassable, except to pedestrians.

Donnington is situated in the fens, 24½ miles south-east of Lincoln. It exports large quantities of hemp and woad grown in the vicinity.

Sleaford, a market-town, 17 miles south by east of Lincoln, is a flourishing and improving town. It stands on the small river Slea, and has a canal following the course of that stream to its confluence with the Witham. Its church is a handsome and spacious building of the 13th century. This town has a free-school, which is held in a new and handsome building. Sleaford is the election town for the south division of the county. Within the last few years a handsome town-hall and justice rooms have been built.

Holbeach, 37 miles south-east of Lincoln, is a market-town of considerable antiquity; remains of pavements, urns, coins, &c., have frequently been dug up here. The church is a handsome building, and the lofty tower and spire is a conspicuous object in the midst of the fens.

Population of the market-towns of Lincolnshire.

Lincoln (City)	11,892
Horncastle (P)	3,988
Alford (P)	1,784
Louth (P)	6,927
Saltfleet (P)	362
Grimsby (B and P)	4,225
Barton (T)	3,233
Crowle (P)	2,113
Epworth (P)	1,825
Kirton (P)	1,886
Glamford Briggs (C)	1,780
Castor (P)	1,525
Market Rasen (P)	1,428
Wragby (P)	601
Gainsborough (P)	7,535
Sleaford, New (P)	2,587
Grantham (P)	7,427
Falkingham (P)	744
Corby (P)	654
Bourne (P)	2,589
Stamford (B)	5,837
Market Deeping (P)	1,091
Crowland (P)	2,716
Sutton St. Mary's (P)	3,510
Holbeach (P)	3,890
Spalding (P)	6,497
Donnington (P)	1,759
Swineshead (P)	1,994
Boston (B and P)	11,240
Tattershall (P)	599
New Bolingbroke (P)	725
Wainfleet (P)	1,135
Burgh (P)	906
Spilsby (P)	1,384

N.B. P stands for parish, B for borough, C for chapelry, T for town.

Authorities.

Historical and Descriptive Account of Lincolnshire.

Stone's Agriculture of Lincoln.

Report of the present ruinous state and condition of the river Witham. 1762.

Howlet's Selection of Views in the County of Lincoln.

NOTTINGHAMSHIRE

Is bounded on the east by Lincolnshire, on the north-west by Yorkshire, on the west by Derbyshire, and on the south by Leicestershire. Its greatest length from south to north is about 46 miles, and from east to west 25 miles. The circuit is about 151 miles; and the area 837 square miles. There are few elevations of any importance in Nottinghamshire: its general aspect is an open country, with sufficient inequality of surface to relieve it from the tameness of one continuous flat. A tract of hilly country runs from Nottingham in the south-west part of the county in a general northerly direction, and terminates on the north a little above Market Warsop; in this high ground most of the smaller streams of the county take their rise. There are also on the south side of the Trent some elevations extending east and west from about Hickling to Thrumpton, distinguished as the Wolds of Nottinghamshire.

The principal rivers are the Trent, the Soar, the Erewash, and the Idle. The Trent enters the county near its junction with Derbyshire and Leicestershire, about two miles below Sawley. This river flows in a winding course, and in a north-east direction to Nottingham and Newark. From Newark it has a general northern course to North Clifton, from which place it forms the boundary of the county till it enters Lincolnshire near Misterton. The Trent throughout its whole course in the county of about 60 miles is a broad, navigable stream, bordered by a belt of low lands. The Soar forms part of the county boundary on the south-west, and joins the Trent where the latter enters Nottinghamshire. The Erewash partly divides this county from Derbyshire, and falls into the Trent a few miles below the junction of the Soar. The Idle rises in Sherwood forest, part of the hilly tract north of Nottingham, and runs nearly parallel with the Trent to Retford and Bawtry, whence, turning to the east, it joins the Trent at Stockwith. All the rivers of Nottinghamshire flow into the Trent, and the county, with the exception of some small parts on the west, is included within the basin of this river. Besides the navigable rivers, this county is intersected by three canals. The Chesterfield canal commences in the tideway of the Trent at Stockwith, near its junction with the Idle. Its course is nearly west for six miles to Gringley: from Gringley it has a south direction to East Retford, and thence westward by Worksop to Shire Oaks, where it enters Yorkshire. Vessels from 50 to 60 tons can navigate this canal as far as Retford; and on the remaining portion, vessels of about 20 tons burden. The Grantham canal has a very circuitous westerly course of 30 miles, from Grantham in Lincolnshire to Nottingham,

where it is met by the Nottingham canal, which communicates with the Erewash canal, and which is 15 miles in length. The Grantham canal was opened in 1802. There is a railway from Mansfield to Pinxton in Derbyshire, to the basin of the Cromford canal: the length is eight miles two furlongs. A rail-road from Nottingham will join the Midland-Counties rail-road near the junction of the Trent and Soar; and about six miles of the Midland-Counties rail-road lies in Nottinghamshire, along the east bank of the Soar.

The great coal-field of Yorkshire, Derbyshire, and Nottinghamshire extends along part of the west border of this county, beginning about four miles and a half west by north of Mansfield, and running southward to between five or six miles west of Nottingham. The whole of this coal-field is more than 60 miles in length, extending nearly as far as Bradford on the north, and nearly to Nottingham and Derby on the south. Its average breadth towards the southern extremity is under 10 miles, but further northward it increases to above 20. The general dip of the coal strata is to the eastward, and they are lost beneath the zone of magnesian limestone, which extends with little interruption from Nottingham to Sunderland; this again is overlaid by the new red sandstone, leaving only a narrow strip of the limestone between it and the coal-beds in Nottinghamshire, and occupying the rest of the county, with the exception of a small tract on the south-east which is occupied by the lias. The limestone is bounded on the east, in the neighbourhood of Nottingham, by the river Lene. Coal pits have been sunk in several places; and their depth is in general very considerable. The seams of coal vary from one or two to five or six feet in thickness; the quality of the coal is similar to that of Newcastle, but rather inferior to it. The limestone is quarried and burnt in different places in this district. Gypsum occurs in different parts of the county; it is raised near Newark in large quantities: stone for building and paving is raised in several places: and marl is also got in various parts of the county.

The climate of Nottinghamshire is dry and healthy, and its situation is better than that of the mountainous districts of Derbyshire on the one hand, and the flats of Lincolnshire on the other. The soil has been divided into four kinds, each characteristic of a peculiar district: they are the sand and gravel district, the clay, the Trent bank district, and the limestone and coal district. The sand and gravel soils stretch in a long, broad slip from Nottingham, by Worksop and Bawtry, to the most northern point of the county. In some parts of the northern division of the county they spread through its whole width: this district has a medium breadth of about seven miles, taking in Mansfield on the west and East Retford on the east, and its length is about 34 miles. This district includes the whole of the forest of Sherwood, well known in popular story as the scene of Robin Hood's feats. Of this once extensive forest little wood now remains, the whole being enclosed and in a state of cultivation. The clay district occupies all the rest of the county to the east of the sand and gravel, except the level lands along the banks of the Trent and of the Soar, and except also a narrow tract of land on the east of the Trent, bordering on Lincolnshire, which is low, often flooded, and has a very poor sandy soil. The clay soil, east and south of the Trent, extends from near Newark to the southern border of the county, a distance of 20 miles, with a medium breadth of four or five. The north part of this district includes the beautiful and fertile vale of Belvoir, and on the south the Nottingham Wolds, a range of bleak hills which are now under cultivation and much improved by planting. The Trent bank district is in general a mellow, vegetable mould, on a subsoil of sand or gravel. The clay district in the north part of the county is extremely fertile, in consequence of a considerable admixture of sand, which renders it more friable than clay lands in general. The limestone and coal districts lie on the very western verge of the county, and form a narrow strip of land, extending from Worksop on the north, to Mansfield, and thence to Nottingham, on the south. From Nottingham to Mansfield it averages three miles in breadth, but from Mansfield to Worksop its medium breadth is not more than half that width. It is chiefly under tillage, and likewise contains several woods. The north-east extremity of the county contains a marshy tract like the marsh lands of Lincolnshire, part of which tract is called the Car.

The agriculture of this county is principally arable. In the Trent bank district, pasturage is more attended to than

in the other parts. The usual crops are wheat, barley, oats, turnips, and clover. The oats are of a remarkably fine quality. Hops are grown largely in the vicinities of Retford and of Ollerton, and in most parts of the north clay. Weld is partially cultivated in the northern district.

This county is divided into six hundreds and 246 parishes; it contains nine market-towns. It is likewise divided into the northern and southern divisions, each of which is represented by two members in Parliament.

The northern division comprises—Hundreds: Bassetlaw, Broxtow, and part of the Liberty of Southwell and Scrooby.

The southern division comprises—Hundreds: Rushcliffe, Bingham, Newark, Thurgarton, and the remaining part of Southwell and Scrooby Liberty.

Nottingham, an ancient borough and county of itself, and the county town, 125 miles north by west of London, is a large and populous place, situated on a rocky eminence, about three-quarters of a mile from the north bank of the river Trent. The hill on which the town stands is so steep, that the ground floors of the houses towards the top are considerably higher than the roofs of those at the bottom. Several of the streets are in terraces one above the other. The streets are generally narrow, and not built with regularity; many modern improvements have, however, been made. The castle, which stands on the summit of the hill to the south-west of the town, is a most conspicuous object from its position. It is a fine spacious building, erected in the reign of James II., very near the site of the ancient fortress which was demolished by order of Charles II. The ancient castle was founded by William I., and was then considered impregnable. David, King of Scotland, was confined a prisoner here; and here, also, Mortimer, Earl of March, was seized by Edward III. and his friends, who entered through a secret passage still called Mortimer's Hole. Behind the present castle there is a park of 130 acres. Nottingham has three parish churches and one extra-parochial church; and 14, or more, places of worship for Dissenters. There is a free grammar-school with an income of near 800*l.* per annum. In the Blue-coat school 80 children are educated, clothed, and apprenticed; the rental of this school is about 218*l.* There are several other charitable institutions. The infirmary, which stands in an airy situation, contains most excellent accommodation. The lunatic asylum, situated to the east of the town, is also well arranged and judiciously conducted. At the east end of the spacious market-place is the exchange, which is a handsome building about 123 feet square. The county and the town-hall are both large and convenient buildings. The county gaol, the town gaol, and the town bridewell, are all tolerably well arranged. There are a theatre and assembly rooms. The Trent at Nottingham is 66 yards wide, and is crossed opposite the town by a bridge of 19 arches. The water-works on the little river Lene, which runs close to the town, partly supply the inhabitants with water. By the extensive inland navigation already described, Nottingham has a communication with all parts of England: there is also a cut which runs from the Nottingham canal, about a mile from the town, direct to the Trent. The staple manufacture of Nottingham is stocking weaving, which is carried on to a very great extent. Cotton and silk stockings are the kinds principally made. The great demand for cotton yarn and thrown silk, as materials for the manufactures, has led to the erection of numerous spinning mills in the neighbourhood, which, however, do not afford sufficient supply, and much cotton yarn is still obtained from the mills in Derbyshire. Many workmen are employed in making the various parts of the stocking frames, and there are also a great number of winders, sizers, and seamers. Within the last 30 years manufactures of lace for veils, shawls, &c. have been introduced, which give occupation to a considerable number of people. Nottingham sends two members to Parliament. Under the Municipal Corporation Act it is divided into seven wards, with 14 aldermen and 42 councillors. The corporate property is very considerable.

East Retford, an ancient borough, on the river Idle, is 27 miles N.N.E. of Nottingham. The town mainly consists of an open square, surrounded by regular buildings. The church is a neat Gothic edifice. Near it is a free-school, endowed by Edward VI., the management of which under the corporation of the borough was very unsatisfactory. Dorrel's Hospital, founded in 1666, is a spacious building: Sleswicke's Hospital was rebuilt by the corporation in 1806: there are also several other

charities. The town-hall, which stands in, and inconveniently occupies a great portion of, the market-place, is a large and commodious building. The cultivation of hops is extensively carried on in the neighbourhood; and there is a considerable hop market in this town. The Chesterfield canal has given to Retford great facilities for trade. The manufactures are principally hats and sail-cloths. There are also a mill for making candle-wicks and a paper mill. West Retford is a small town, situated on the other bank of the river, but the two towns are united by a bridge, and are considered as constituting together the town of Retford. West Retford is not, however, included in the borough of East Retford, formerly represented in Parliament by two members; the franchise is now extended to the whole of Bassetlaw Hundred. East Retford is a polling-place for the county.

Worksop, a market-town, situated on the small river Rayton, and on the line of the Chesterfield canal, is 24 miles north of Nottingham. It consists principally of two streets, and is noted for its malt and licorice. The town formerly contained a priory, little of which now remains except the church, which is a fine specimen of ecclesiastical architecture.

Mansfield, 13 miles north of Nottingham, is a very old town. Some antiquarians suppose it to have been a British, and afterwards a Roman, station. Many Roman coins and other ancient relics have been discovered here. It is a large but straggling place: the houses are built of a gloomy looking stone which is quarried in the neighbourhood, and the streets are in general dirty and ill-paved. Mansfield, however, is a very populous, flourishing town, and in addition to cotton-spinning, hosiery, and lace manufactures, it has a considerable trade in corn, malt, and in the valuable stone of the vicinity. There are several cotton-mills on a very large scale, and numerous stocking-frames, which together occupy a large proportion of the inhabitants. There are some iron founderies for light castings on a large scale. A railroad communicates with the Pinxton canal at Pinxton in Derbyshire, which gives great facilities to the trade of the town. The church is a fine building. There are a free grammar-school, two other charity schools, and several Sunday schools. The moot hall, in which the county meetings are often held, stands in the market-place, and is the only public building, unless we include a small theatre and a coffee-room. Mansfield is the election town for the northern division of the county.

Newark, 16 miles north-east of Nottingham, a borough and the election town for the southern division, sends two members to Parliament. It is pretty, well-built, and situated on the small river Devon, a branch of the Trent, and within a short distance of its junction with the latter river. Next to Nottingham it is the largest town in the county, and has a considerable trade in corn, coal, cattle, wool, and other commodities. The business of malting is carried on to some extent; and there is also a large linen manufactory. Newark is on the great road between York and London, a circumstance which adds considerably to the prosperity of the town. A branch of the Trent, into which the Devon falls, issues from the main stream at Upper Weir above the town, and again joins the Trent at Crankley Point below the town, passing by Newark in its course; and thus an island is formed which is of some extent and remarkable fertility. The whole of this branch has been made navigable from the town to the Trent, and is known as the Newark Navigation Canal. The great north road passes over the island just mentioned, which is liable at times to inundations: in 1770, a new turnpike road was constructed, which is in good condition at all seasons of the year. This was effected by erecting 13 bridges of various sizes, and at irregular distances. The bridges contain in the whole 94 arches in a distance of one mile and a half, by which the road is carried above the reach of the floods, and is raised to the level of the bridge over the Trent, called Muskam Bridge. There is another bridge over the canal. On the north-west of the town are the ruins of an ancient castle rebuilt in the reign of Stephen, and hence called the New-work, from which the town obtains its name. Newark church, which is considered one of the handsomest in the kingdom, belongs to the 15th century. It is very much ornamented; the windows being filled with mullions and very rich tracery: statues and other decorations appear in every part of the building. The tower is light and handsome with a lofty stone spire. Besides the church there are meeting-houses for various denominations of Christians. The free-school of Newark, founded in

the reign of Henry VIII. by the Rev. Thomas Magnus, is well endowed: there are also many other charities. The market-place is a handsome square, and contains the town-hall. Limestone and gypsum abound in the neighbourhood. A considerable quantity of gypsum is burnt for stucco, and sent by water carriage to the metropolis. Under the Municipal Corporation Act Newark is divided into three wards, with six aldermen and 18 councillors.

Newstead Abbey, situated about eight miles from Nottingham, is well known as the hereditary seat of Lord Byron. Its foundation dates as far back as 1170, when it was established by Henry II. as a priory of black canons. The front of the abbey church has a noble appearance.

Dunham, a small village on the west bank of the river Trent, is 12 miles from Newark and 9 miles from Gainsborough. Until a bridge was recently thrown across the river at this place, there was not one over the Trent between Newark and Gainsborough. In times of flood it was not unusual for travellers to go out of their way, to cross the Trent by Newark or Gainsborough, in order to avoid the delay in crossing the ferry at Dunham. This bridge, which is of cast iron, consists of four arches of 118 feet span each; the total length of the bridge is 536 feet.

Bingham, eight miles east of Nottingham, is a small market-town, situated in the vale of Belvoir. It is supposed to have been once a place of some importance. It possessed a religious establishment and a collegiate church, nearly as old as the Conquest; and foundations of ancient buildings have frequently been discovered here. The present town principally consists of two parallel streets which are well-paved. The houses are in general neat and well-built. The church is a heavy, ancient building, with a curious, early English tower. There is a parish-school with a small endowment.

Southwell, 12 miles north-east of Nottingham, is pleasantly situated in a fertile, well-wooded country, having the small river Greet running on the north-east, and surrounded on the other sides by rising ground. Southwell is a place of great antiquity, and is supposed to have been a Roman station. It is certain that the town was formerly much more extensive than at present, since foundations of old buildings have been frequently discovered. The hamlets of East and West Thorpe join the town and appear to form a part of it, and therefore the whole is still a place of tolerable size. Southwell is divided into two parts, civil and ecclesiastic. The former, distinguished as the Burgage or Burridge, occupies the space between the river and the market-place; and the latter, called the Prebendage, includes the collegiate church and its property. This church is a very ancient building, with considerable claims to architectural beauty. The first foundation of a church here is dated by antiquarians as far back as the time of St. Augustine; pursuant to whose advice, it is said, Pope Gregory sent a missionary to establish Christianity in these parts. During a succession of ages it flourished by the aid of many liberal endowments. At the Reformation it shared the fate of many other cathedrals, but though despoiled, it was declared in the same reign, by Act of Parliament, the mother-church of Nottinghamshire. The building sustained much injury during the Civil Wars, when it was converted into a stable for troops. The church consists of a nave with two aisles, two towers at the west end, a transept, a choir with aisles, and a chapter house. The length from east to west is 306 feet, the width of the transept, from north to south, is 121 feet, and the breadth of the nave 59 feet. The architecture is Saxon, with very little admixture of other styles; in some of the windows the Saxon arches have given place to others in the pointed style of the 14th century. There is a tradition that the oldest part which is pure Saxon, and in which the pillars are plain and singularly massive, was built in the short reign of Harold; and there appears little doubt that, excepting St. Augustine's Monastery at Canterbury, this is the oldest ecclesiastical building in England. There are some remains in the churchyard, of the college which was established for the chauntry priests. The square building called the chauntry was some years ago taken down, and an excellent school-house erected on its site. The whole establishment of the college now consists of 16 prebendaries, six vicars-choral, an organist, and other officers. Two fellowships in St. John's College, Cambridge, are appropriated to the choristers of Southwell College.

There are a collegiate grammar-

school and six charity schools, all slenderly endowed; also Sunday and other schools. The county bridewell, originally built in 1656, stands on a gentle slope near the town. It has received considerable additions and improvements of late years, and is well calculated for the purpose. This prison is capable of containing more than 100 persons.

The Archbishops of York used formerly to have a palace here. It was a large and elegant building, but is now in ruins which are overgrown with ivy, forming a picturesque object. On the north side of the churchyard there is a well-shaded public walk, made in 1784. Southwell possesses no trade, and its manufactures are inconsiderable. The stocking and lace manufactures give employment to about 150 men. This town is a polling-place for the southern division of the county.

Tuxford, a small market-town, 22 miles N.N.E. of Nottingham, is situated on the great road to York. It has a free-school endowed with a rent-charge of about 40*l.* per annum, from the castle and manor of Folkingham, Lincolnshire; it has, likewise, an infant school, a national school, and Sunday schools.

Population of the market-towns of Nottinghamshire:—

Nottingham (T)	50,680
Newark (B)	9,557
Tuxford (P)	1,113
East Retford (B and P)	2,491
Blyth* (P)	3,735
Worksop (P)..........	5,566
Ollerton (C)	658
Mansfield (P)	9,426
Southwell (P)	3,384
Bingham (P)	1,738

N.B. P stands for parish, B for borough, T for town, C for chapelry.

Authorities.

Lowe's General View of the Agriculture of Nottinghamshire.

Thornton's History of Nottinghamshire; reprinted, with large additions, by J. Throsby.

Deering's History of the Town of Nottingham.

DERBYSHIRE

Is bounded on the east by Nottinghamshire, on the south-east by Leicestershire, on the south-west and west by Staffordshire, on the north-west by Cheshire, and on the north by Yorkshire. This county is of a very irregular figure, especially on the west side, and there is a small isolated part of it in Leicestershire through which the Ashby-de-la-Zouch canal passes. The extreme length from north to south is about 55 miles, and from east to west 33 miles. The area is 1121 square miles. The aspect of this county varies considerably in different parts. From Derby to the north-west it is mountainous. The high land which commences near Derby belongs to the elevated tract already described under the name of the Penine Chain. The course of this great range at first inclines to the north-west, but afterwards becomes northerly and the mountains occupy the whole of the north-western angle of this county, and thence extend into Yorkshire. This great range separates the basins of the Humber and of the Mersey. Lateral ridges branch off from the principal chain and form the subordinate basins of the various affluents of these large rivers. From near Axedge Hill, which stands on the boundary between this county and Staffordshire, a tract of high land runs south east, separating the basins of the Derwent and the Dove. Another elevated tract, east of the Derwent, separates the basin of that river from those of the Rother and the Sheaf. This high land branches off from the Penine chain in Yorkshire, near the boundary between that county and Derbyshire, then enters the latter county, and runs in a south-eastern direction across the eastern moors of Derbyshire into Nottinghamshire. The extreme north-west district of the county is generally known by the name of the High Peak: it is a region of black, barren, round-backed hills and extensive moors, intersected by deep valleys. The middle part of the county, though hilly, is not so elevated, and is generally called the Low Peak. The southern part presents a level surface with slight undulations, and is for the most part fertile and well cultivated. The highest eminence, Axedge, near Buxton, is 1751 feet above sea level.

Derbyshire is well-watered. The principal streams are the Trent, the Derwent, the Wye, the Dove, the Erewash, and the Rother. The Trent forms the boundary for a short distance on the south-west of the county. It enters

* This return includes the town of Bawtry, which is situated mostly in the West Riding of Yorkshire.

Derbyshire near Newton Solney, between two and three miles below Burton in Staffordshire: it then takes a turn to the east, and crosses the county to its south-east angle. After forming for a few miles the south-east boundary, it leaves the county and enters Nottinghamshire just after its junction with the Erewash. A small part of the county is thus entirely separated from the rest by the Trent. From Burton to the Humber the course of the Trent is 117 miles. The Derwent has its source in the high land, in the extreme northern part of the county, near the origin of the Etherow, a branch of the Mersey. It is soon increased by various torrents from this mountainous district, which unite near Hathersage in one stream. The river then takes nearly a south direction, and passes through Chatsworth Park, a little below which it is further augmented by the small river Wye. The Derwent then passes Matlock, where it flows in a deep channel sunk between lofty rocks. Its course continues past Belper to Derby, a little above which town it leaves the hilly district and enters the wide valley of the Trent. From Derby its course is more to the east: it joins the Trent about eight miles E.S.E. of Derby. The Derwent is navigable as far as Derby, but since the making of the canals it is little used. The Wye rises a little to the north of Buxton, and, flowing by Bakewell, joins the Derwent. Its entire course is within the hilly region. The Dove rises near Buxton, and forms the boundary between this county and Staffordshire till it falls into the Trent, a little below Burton. As far as Ashbourne its course is in the hilly region, and generally in a valley deep sunk in the high lands. This stream presents in its course many scenes of striking grandeur and beauty. The Erewash rises near Alfreton, and takes nearly a southern course till it joins the Trent, a few miles below the junction of that river with the Derwent. The Rother has its origin in several small streams south of Chesterfield, passes that town, and enters Yorkshire near Beighton. Thus the drainage of the whole county belongs to the basin of the Trent, with the exception of a few inconsiderable streams in the north-west part of the county, which belong to that of the Mersey. It follows that the general slope of the county, and of the valleys by which it is drained, is to the south and south-east. The small part drained by the Rother and Sheaf slopes to the north.

This county is intersected by many canals. The Grand Trunk canal enters Derbyshire two or three miles below Burton, traverses it on the south, and terminates at the confluence of the Derwent with the Trent. The Derby canal, which joins this canal at Swarkstone and runs to Derby, is five miles and a quarter in length to that town, and is continued to Little Eaton, three miles and a quarter further. The Erewash Canal commences in the Trent, about one mile east of Sawley, and takes a north direction in the valley of the Erewash to the Cromford Canal, where it terminates near Langley-hill bridge; its length is 11 miles. This canal was begun in 1777. A branch, eight miles and a half in length, runs from the Erewash canal to Derby; and another branch, called the Shipley Canal, four miles and a half long, extends to the Shipley collieries; several other collateral branches and railways communicate with other collieries in this district. The Cromford canal commences in the Erewash canal, near its junction with the Nottingham canal, crosses, and proceeds along the banks of the Erewash to Codnor Park iron-works; shortly after, it enters a tunnel 2966 yards in length, which terminates a little distance from the Butterly iron-works. The canal then crosses the Amber by an aqueduct 200 yards in length and 50 feet high; thence it follows the course of the Derwent, passes through two short tunnels, and then over another aqueduct about one mile and three-quarters from Cromford, at which place the canal terminates. This canal is 18 miles in length, and has besides a branch to Pinxton, several other branches and railways which communicate with it. A reservoir of 50 acres, situated near the Butterly iron-works, is the principal feeder to the canal. This work was begun in 1790. The Chesterfield canal passes through Nottinghamshire and a small part of Yorkshire: between Harthill and Wales, it enters a tunnel 2850 yards long, 9¼ wide, and 12 feet high, and thence, passing into Derbyshire, continues along the east bank of the Rother, through a country abounding in coal, to Chesterfield, where it terminates. Its length is 46 miles; it was completed in 1776. About half a mile from Cromford, the Cromford canal is

joined by the Cromford railway, which passes within a mile of Wirksworth, takes a circuitous course to the north side of the Axedge range of hills, and passes a little more than a mile west of Buxton to the Peak forest canal at Whaley bridge. This railway is 33 miles 11 furlongs in length: it has one tunnel and six inclined planes; in its highest part it is 990 feet above the head level of the Cromford canal, and 1271 feet above that of the sea at low water. This undertaking was commenced in 1825. Great advantages are expected to be derived from such facilities, for the conveyance of the produce of the lead-mines which are situated in this district. A railway between Derby and Birmingham is now in progress. From Derby it passes through Normanton and Willington, close to Burton-on-Trent, on the west side of the Trent: it crosses the Tame and the Trent near their junction in Croxhall parish, and proceeds by Tamworth and on to Coleshill, where there are two branches, one terminating in the town of Birmingham, and the other at Hampton-in-Arden in the London and Birmingham railway. The length of this line is 38¾ miles.

Another railway in progress, called the North Midland, will connect Derby with Leeds, passing by Belper, Chesterfield, and Rotheram, through the valleys of the Derwent, Amber, Rother. This line is 72¼ miles in length.

The Midland Counties railway, which is also in progress, commences at Rugby in the London and Birmingham railway, whence it proceeds to Leicester, and continuing northward crosses the Trent a little below its confluence with the Soar. Two branches extend from this point, one to Derby, the other to Nottingham. The length of the entire line is 75 miles. This railway will thus form a more direct communication with London than the Birmingham and Derby railway. The mineral springs of this county are numerous, among which those of Buxton, Matlock, and Kedeleston are best known.

The new red sandstone formation extends from the midland counties into Derbyshire, and occupies nearly the whole southern part as far north as a line drawn through Ashborne, Duffield, and Sandiacre. In a few spots the magnesian limestone rises to the surface, and on the borders of Leicestershire the Ashby-de-la-Zouch coal-field extends a little into this county. The coal-field, already noticed in the account of Nottinghamshire, is bounded in this county on the south by the red sandstone, and extends as far west as a line drawn from Little Eaton near Derby, to between Hathersage and Sheffield in Yorkshire; it occupies the whole of the county east of the red sandstone formation, except a small portion in the north-east corner, where the magnesian limestone occurs as far west as a line running north and south through Bolsover.

The millstone grit and its associated shale, which the coal measures immediately overlie, crop out on the west side of the coal-field and form a broad zone, partially extending round the coal measures in this and the more northern counties. In Derbyshire it occupies a tract between Duffield, Belper, and Wirksworth, on the west side of the Derwent, and is the rock which forms the ridge on the east side of the valley of that river. It occupies also the northern and western borders of the High Peak, and extends southward to Buxton, near which it passes into Staffordshire. The hills formed by this rock are usually barren, presenting a bold escarpment, and producing that wild mountain scenery for which Derbyshire is celebrated. Carboniferous, or mountain limestone occupies the remaining part of the county north of the red sandstone, forming the Peak forest and the mountainous district of the north-west. This rock is noted for the striking appearances which it presents, and for the remarkable phenomenon of caverns and other subterranean passages, which often engulph the streams which traverse it, some of which have subterraneous courses several miles in length. There are several limestone caverns in this county; the most remarkable of which is Peak's Hole, or the Devil's Cave, near Castleton. It is situated at the end of a deep and narrow rocky chasm. The entrance is a tolerably regular arch about 40 feet high, 100 wide, and extending in length near 300 feet. At the end of this first cavern the arch contracts until it opens into a spacious vault; a second contraction, through which there runs a stream of water, conducts to a third cavern; this is succeeded by a series of chambers, at the extremity of which the rocks close down upon the stream of water so low as to preclude all further progress.

The most productive lead-mines of Derbyshire occur at or near the junction of the gritstone and the subjacent limestone. The millstone grit forms excellent material for buildings where durability and strength are required; and it is extensively quarried in this county. There are also several quarries of limestone, which is capable of receiving a good polish and is much used as marble. Derbyshire contains mineral wealth both in abundance and variety. Lead, iron, and calamine, as well as coal and limestone, are plentiful. The lead-mines have been worked for many successive ages. There are lead-mines near Wirksworth, Matlock, Winster, Moneyash, and Castleton. Ironstone is found where the coal is found, except at the Chinley Hills. It is worked at Heage, about five miles south-west of Alfreton, at Wingerworth, Chesterfield, and Stavely. The Butterly iron-works are near Alfreton. Calamine is obtained combined with lead at Castleton, Cromford, Wirksworth, and its vicinity. Calcareous concretions are found in great abundance in almost every part of the Peak, there being hardly a cavern which is not lined with incrustations of this kind. The fluor spar for which Derbyshire is so noted is obtained most abundantly from a mountain situated a little to the west of Castleton. This mountain is of limestone rock, and is full of caverns of immense depth which contain the fluor spar, suspended around the sides and tops in a variety of fantastic, beautiful forms. This fluor spar is fashioned into numerous ornamental articles for sale in several towns of the county.

The most common soil in this county is a reddish clay or marl, which prevails in the south. In the north-west of the county is an extensive tract of limestone, the southern and middle parts of which have the same surface soil as the southern district. In a large tract on the east side of the county, extending from Stanton by Dale to Morley in Yorkshire, where the coal occurs, the soil is a clay of various qualities. In the north extremity of the county is a similar soil; peat bogs likewise occur there. The soil on the banks of the rivers is partly alluvial. The southern and eastern parts of Derbyshire are employed both for pasture and tillage. Most kinds of grain are cultivated and produce a good return. In the neighbourhood of Chesterfield, chamomile is raised on an extensive scale, and it is said that about 200 acres are devoted to its growth. From the poverty of the soil and the rawness of the climate, very little corn is grown in the northern parts, and the lands are mainly used as pasture for sheep and cattle. Dairy farms are numerous in the southern part of the county, and large quantities of excellent cheese are annually sent to the metropolis.

Derbyshire is divided into six hundreds: it has 313 parishes and 14 market towns. It is likewise politically divided into the north and south divisions, each of which sends two members to Parliament.

The northern division comprises—Hundreds: Scarsdale, High Peak, and part of Wirksworth.

The southern division comprises—Hundreds: Appletree, Morleston and Litchurch, Repton and Gresley, and the remainder of Wirksworth.

Derby, a borough, the election town of the southern division and the capital of the county, is represented in Parliament by two members. The town is chiefly situated on the western bank of the river Derwent, 126 miles north-west of London, in a fertile level plain, surrounded by beautiful scenery.

Derby is an old town, and formerly had a castle; and a little to the north of the town, at Little Chester or Derwent, it is supposed there was once a Roman station. The streets of the older part of the town are narrow and crooked; but the new streets are well built. Derby contains five parish churches, besides places of worship for eight different denominations of Dissenters. The grammar-school is supposed to be one of the most ancient endowments of the kind in England. At the time the return was made (1834) it only contained two scholars, but it is said to be now again getting in repute. There are also two national schools, one Lancasterian, and three infant schools, besides 24 Sunday schools. The town-hall is a handsome edifice of stone, and in the market-place there is a spacious assembly-room. The county hall is a new and very commodious building, erected about ten years ago: the architectural front of the old building remains. There is also a new county prison. On the south-east of the town is a very large infirmary, erected in 1810; the ground space is a square, the side of which is about 100 feet, and the whole internal arrangement is very good. There are five large baths heated by steam, and

into which the water is pumped by a steam-engine, the power of which is likewise applied in performing the more laborious domestic operations of the establishment. A short distance south-west of the infirmary was a government depôt for ordnance, built in 1803, which was capable of containing 15,000 stand of arms and 12,000 barrels of powder: it is now converted into a silk-mill. The silk manufacture to a large extent is carried on in this town. The first mill established for throwing silk in England was erected in Derby, and on a very large scale. The manufacture of lace and hosiery, and the weaving of silk ribbons, are likewise carried on in this town. There is also a large porcelain manufactory. Fluor or Derbyshire spar and marble are manufactured into useful as well as ornamental articles. Lapidaries and working jewellers carry on a considerable trade in the town, and there are likewise manufactures of iron, lead-pipes, lead-shot, white and red lead, tin plate, and other articles. The river was made navigable to the Trent in the reign of George I., but since the Derby canal has been opened it is of little use in that respect. It is crossed by a stone bridge. There are also a wooden and a towing bridge over the Derwent, and five stone bridges across the Markeaton brook which flows through the town into the Derwent. The Derby canal, which communicates with the Grand Trunk canal at Swarkstone, has already been described: it enters the town on the east, crosses the Derwent, and proceeds by Little Chester and Breadsall to Little Eaton. The branch to the Erewash canal commences from the main line on the north side of the Derwent, near Derby. From Little Eaton there are railroads branching out to different collieries in the neighbourhood. The whole was completed in 1794. These canals afford extensive inland communication, and when the railways to Birmingham, &c. (already noticed) shall be finished, the facilities will, no doubt, be tenfold increased. Derby is lighted with gas, and supplied with water from the Derwent. The town is still rapidly improving: several new factories on a large scale have recently been built; a handsome stone building for the Derby new Banking Company; and another which contains the post-office, a hotel, and a news-room. Under the Municipal Corporation Act, Derby is divided into six wards.

Darley-Abbey, a very neat village, about a mile from Derby, on the Derwent, has a large cotton factory and paper-mill.

Belper is a market-town about seven miles north of Derby, on the river Derwent. It is now a flourishing town, owing to the establishment of the cotton works of Messrs. Strutt, in 1776. The inhabitants are chiefly employed in manufactures; the principal of which are cotton and hosiery. There is also some nail-making. Belper is a polling-place for the county. A new church has been built on an elevation above the town, and there are besides places of worship for six denominations of Dissenters. There are an infant and other schools.

Ashborne, a considerable market-town 13 miles N.W. of Derby, is well situated in the valley of the Dove, and sheltered on the north by high hills. The church is an old building in the form of a cross, with a tower rising from the centre surmounted by a fine spire. There are also three places of worship for Dissenters. A grammar-school was founded in this town in 1585, by Sir Thomas Cokaine and others. Besides the grammar-school there are two endowed elementary schools for 30 boys and 30 girls; and several alms-houses. The town has no manufacture of any importance, but in the neighbourhood there are iron-works and a cotton factory. The chief trade is in cheese and malt. Several fairs are held here in the year. Ashborne is a polling-place for the county.

Wirksworth, a market-town 12 miles N.N.W. of Derby, is situated in a deep valley in the hilly country. The inhabitants derive their support principally from working the lead-mines in the vicinity. There is a moot-hall, where causes relating to the mines are tried. The church is a building of the 14th century. The town is well supplied with both river and spring water. There were formerly many medicinal springs in this neighbourhood, but they have been destroyed by the draining of the mines. There are some small manufactures of cotton and worsted. Wirksworth is a polling-place for the county.

Matlock is a large straggling village, romantically situated on the steep side of a mountain on the east bank of the Derwent, 15 miles nearly north of Derby. Matlock Bath is on the west side of the river, and is noted for its warm springs, which, since the latter part of the 17th

century, have been visited for their medicinal qualities. The temperature of the water is only about 69° Fahrenheit. There are three springs, over each of which handsome baths have been erected, and lodging-houses near them for the accommodation of visitors. The buildings are mostly of stone. The scenery here is extremely picturesque, rugged rocks forming an agreeable and striking contrast with the finest verdure. At the entrance of Matlock is a neat stone bridge, and near to it on a rock stands the church. On the hill above the church, called Riber Hill, are the remains of what is supposed to have been a Druidical altar, consisting of four rude masses of gritstone, the smallest of which is placed on the others; they are called the Hirst Stones. The resident inhabitants of the village are employed in the lead-mines of the vicinity, and in a large cotton factory of Mr. Arkwright, who has also an extensive paper-mill in the neighbourhood. The whole parish contains 3262 inhabitants.

About a mile from Matlock Bath is Cromford, where Arkwright erected his first cotton spinning mill. Cromford has now two cotton mills which are driven by water, conveyed by subterraneous drains nearly two miles in length, called the Cromford Sough, from the lead-mines near Winster. Stockings and lace are made here to some extent. Red lead is manufactured, and lapis calaminaris is ground and prepared. There are an infant and other schools. The Cromford canal terminates here, and the High Peak railway joins the canal a short distance south of the town.

Winster, about three miles W.N.W. of Matlock and 16 north-west of Derby, is a market-town, situated near the rich lead-mines. It is a small place, but there is a considerable number of cottages scattered round it. The inhabitants are chiefly employed in working the mines. Besides the church there is a Dissenting chapel; the town contains one infant school, two daily, and two Sunday schools. At Birchover, about a mile north of the town, are some curious rocking stones, the largest of which weighs 50 tons.

Bakewell, the election town of the northern division, is 22 miles N.N.W. of Derby, on the Wye, and about three miles above the confluence of the Wye and Derwent, in a deep valley in the mountainous region. Bakewell is a very ancient place: it is mentioned in the *Saxon Chronicle* as existing in the reign of Edward the Elder, who ordered a castle to be built in the neighbourhood. The castle hill is on the east bank of the Wye, and traces may still be discovered of the ruins of the ancient castle. The parish church is an old handsome building, exhibiting in its architecture specimens of the style of three different periods. The oldest part is supposed to have been built in the 11th century. Bakewell has a free school of ancient date, which is now kept in the town-hall. A large proportion of the inhabitants are employed in working the mines and quarries of the neighbourhood. The cotton manufacture and working in marble likewise afford occupation to some of the population. About four miles from the town is Chatsworth, the magnificent seat of the Duke of Devonshire. At Chatsworth the unfortunate Mary Queen of Scotland spent 17 years of her imprisonment in England.

Tideswell, 27 miles north-north-west of Derby, is a market-town, rather meanly built. The church is a fine structure of the 14th century. The town contains a free grammar-school, founded in the time of Elizabeth by the then suffragan Bishop of Hull. The name of the place is derived from a curious intermitting well, which, during great rains, ebbs and flows two or three times in the course of an hour. It is about a yard deep, and of the same width; the water rises from two to three feet, gushing from several cavities at once for a few minutes. In a dry summer this phenomenon entirely ceases.

Buxton, a market-town, 29 miles N.W. of Derby, is situated in a hollow, surrounded by round-backed hills. It is celebrated for its mineral springs, which are considered efficacious, when taken internally, in cases where the digestion is feeble or impaired by luxury. The water from the hot springs is about 82° Fahrenheit, colourless, and devoid of taste or smell; 60 gallons are discharged in a minute. There are six baths erected over these springs, one of which is appropriated to the poor. The water is used both externally for bathing in, and taken internally. It is generally drunk at St. Anne's Well, which is within 12 inches of a cold spring. The season for drinking the waters is from June to October. The hotel, called the Hall, adjoins the baths, to which visitors can

have access within the house. The Crescent, which is the principal building in the town, is a magnificent range of houses, erected by the late Duke of Devonshire. It consists of three stories, the lowest of which forms a beautiful colonnade, and is occupied with shops; the upper part is divided into three hotels and a lodging house. At the back of the Crescent is an extensive range of stables in the form of a circus. A very handsome church was erected here and opened in 1812.

About four miles and a half from Buxton, and 33 from Derby, is Chapel-en-le-Frith, a town on the borders of the county close to Cheshire. There is a small endowed school, and, besides the church, there are two Dissenting places of worship. The cotton manufacture is carried on here, though not on a very extensive scale; and several fairs are held here annually. The Peak forest lime-works lie three miles east of the town. Chapel-en-le-Frith is a polling-place for the county.

Six miles from Chapel-en-le-Frith is Castleton, a village which takes its name from an ancient castle, situated on a steep rock 250 feet high, to which there is but one ascent, which is so winding that the road to the summit is two miles in length. On the steep side of another mountain is a large opening in the form of a Gothic arch.

Chesterfield, a borough and market-town on the west side of the river Rother, is 22 miles north of Derby. It is conjectured from its name to have been a Roman station, but at the Norman survey it was an insignificant place. The church, which is of considerable antiquity, is a handsome building, in the form of a cross, having a curiously twisted wooden spire 230 feet in height. The grammar-school was founded in the time of Queen Elizabeth (said at present to be closed): there are two alms-houses. In the market-place is a neat town-hall, which contains a debtors' prison on the ground floor, and the sessions house on the second floor. This town has a silk and a cotton mill, and manufactures shoes, stockings, and carpets. Several potteries have been established in the vicinity. Both iron and coal are worked near Chesterfield. The town communicates with the tide-water of the Trent by the Chesterfield canal. Chesterfield is a polling place for the county.

Alfreton, a market-town, 13 miles north by east of Derby, is a long, straggling place, with the houses irregularly built, and some of them very old. Manufactures of stockings and of earthenware are carried on here; and at Ridding, in the neighbourhood, there are considerable iron-works. It has a free-school. Alfreton is a polling-place for the county.

Dronfield, 26 miles north of Derby, is a small market-town, situated in an extensive parish of the same name. The church stands on an elevation near the town; it has a fine tower and spire, chiefly in the decorated English style; there are also three Dissenting meeting-houses. A free grammar-school, with an income of 208*l*., affords instruction to 130 scholars. There are besides three other small schools. Some manufactures, chiefly of iron goods, are carried on in the town.

Glossop and Melbourne are two polling-places for the county.

Two or three miles north-west of the town of Winster, there are remains of an ancient British work—the stone circle of Arbelows or Arbor-low. It consists of an elliptical area of 156 feet by 138, inclosed by a ditch 18 feet broad, and an outer bank formed by the soil thrown out from the ditch 15 feet high on the inside. In the inclosure there are openings on the north and south sides about 42 feet wide, and near to the southern entrance is a small mound or barrow. Several rough unhewn stones, about five feet long by three feet broad and one foot thick, lie round the inclosure; and besides these there are other smaller ones scattered about. The ancient British road, the Rykniel Street, and the Roman road, which usually coincided with it, ran through this county, entering from the south-west and passing into Yorkshire on the north-east. A second Roman road may be traced from Buxton to Brough in Westmoreland, both of which places are ascertained to have been Roman stations. Another Roman road runs through the county from the Dove, at or near Rocester, to Derventio, and appears to have continued in the same direction thence into Nottinghamshire. Another Roman road runs from the station of Melandra Castle, in Glossop parish, to Brough. There are likewise traces of other Roman roads.

Derventio, now Little Chester, near Derby, appears to have been the most considerable Roman station in the county. Chesterfield, likewise, is supposed to have been a Roman station,

the Lutudarum of Ravennas. The station at Brough was an oblong, 310 feet by 270 feet, three sides of which are still perfect; and the foundations of a temple and another large building, with other antiquities, have been discovered there. At Buxton several Roman baths have been discovered. Melandra castle stood on a small eminence at the meeting of two mountain streams: it was a square, the side of which was 336 feet: there are still remains of the ramparts and ditch, and there are also the foundations of many buildings on the side sloping to the water. The most remarkable Roman antiquities discovered in this county are three pigs of lead stamped with LVT and LVTVD, abbreviations of Lutudarum: they were found near Matlock, and are now in the British Museum. (*Library of Entertaining Knowledge:—Townley Gallery*, vol. ii. p. 288.) A Roman altar is preserved in Haddon Hall, and a silver plate was found in Risley Park.

There are very few Saxon remains in this county, and there are only the remains of a few castles belonging to the middle ages. Haddon Hall, near Bakewell, an ancient seat of the Duke of Rutland, was erected in the earlier part of the 15th century, and no part appears to be of later date than the reign of Henry VIII. Hardwicke Hall, the property of the Duke of Devonshire, situated between Mansfield and Chesterfield, is a good specimen of the Elizabethan style.

Population of the market-towns of Derbyshire:

*Derby (B)	23,607
Alfreton (P)	5,691
Bolsover (P)	1,429
Chesterfield (P)	10,688
Dronfield (P)	3,974
Chapel-en le-Frith (P)	3,220
Buxton (T)	1,211
Tideswell (P)	2,807
Bakewell Town	1,898†
Winster (C)	962
Wirksworth (P)	7,754
Belper (C)	7,890
Ashborne (P)	4,884

N.B. B stands for borough, P for parish, T for town, C for chapelry.

Authorities.

Davis's View of Derbyshire.

Daye's Tour through Yorkshire and Derbyshire.

Mawe's Mineralogy of Derbyshire.

Rhodes's Peak Scenery of Derbyshire.

Hutton's History of Derby.

Brown's General View of the Agriculture of Derbyshire.

Pilkington's View of the present state of Derbyshire, 1789.

* The population at present (1839) is supposed to be about 30,000.

† The whole parish, including Buxton, contains 9,503 inhabitants.

STAFFORDSHIRE

Is bounded on the north-east and east by Derbyshire, on the south-east by Warwickshire, on the south by Worcestershire, on the west by Shropshire, and on the north-west by Cheshire. Its boundary forms a long, irregular figure. Its greatest length from north to south is 54 miles, and from east to west 31 miles; the area is 1148 square miles.

The aspect of Staffordshire varies considerably in different parts. In the middle and south-west it is either generally level, or interspersed with eminences which rarely rise to a great height. In the south and south-east a few lofty ridges appear to give variety to the scenery; among these are the hills near Sedgeley and Dudley, the quartzose and ragstone hills of Rowley, about two miles south-east of Dudley; Barr Beacon, a little to the south-east of Walsall; and the high grounds near Tettenhall, Enville, and on Cannock Heath. In the south-east there is a ridge of high land running from Lichfield to Drayton Basset; and in the east there is high land on the north and east of Abbots Bromley, beyond Tutbury, extending east. Towards the north, the Moorlands of Staffordshire, as they are called, occupy a considerable surface. They begin near Eccleshall, on the west, and near Ellaston, on the east, and as they advance further north occupy the entire breadth of the county. This hilly tract, on the north and north-eastern boundary of the county, is the common water-shed of the basins of the Weaver, the Trent, and the Dove; and the high lands on the north-eastern boundary form the western border of the valley of the Dove, and consequently are geographically connected with the high lands of the north-west part of Derbyshire. Weaver Hill, the highest point in the northern part of the county, is 1155 feet above the level of the sea. The highest point of the Mole Cop, which is south-east of Congleton in

Cheshire, is about 1100 feet. The district of the Moorlands is a bleak and dreary tract, on which the snow lies longer, and where more rain falls, than in any other part of the county. The whole drainage of the Staffordshire moorlands runs into the basin of the Trent, with the exception of a small part which passes by the Dane to the valley of the Weaver. The drainage of the remaining part of the county also runs to the Trent, with the exception of a small part of the south-west, the drainage of which runs to the Severn by the Stour.

The principal rivers are the Trent, the Dove, the Tame, the Blythe, the Sow, the Penk, and the Stour. The Trent rises near Biddulph, in the Moorlands, and on the extreme north-western border of the county. It takes a southern course through the Potteries to Stone, where it turns to the south-east, and continues this course till its junction with the Tame, five or six miles north-east of Lichfield. After its junction with the Tame, it turns to the north-east past Burton and forms the boundary of the county, till it is joined by the Dove on the left bank. The Tame rises in the southern part of the county to the west of Walsall, and, taking a south-east direction, enters Warwickshire, not far from Handsworth. At Tamworth it again enters Staffordshire, and continues its circuitous course in a northerly direction till its junction with the Trent, about seven miles above Burton. The Blythe rises near Wetley moor, a few miles to the north of Cheadle, and running nearly parallel to the Trent for some distance falls into that river near King's Bromley. The Sow rises to the north of Eccleshall, and flows to Stafford, where it joins the Penk, which has its source near the village of Somerford; the united stream joins the Trent near Tixall. The rivers already described drain nearly the whole of the county. The Stour, which rises in Shropshire, takes a south direction, passes into Staffordshire, and thence enters Worcestershire, where it falls into the Severn at Stourport. This river, which is only 20 miles in length, puts in motion more than 30 slitting mills, forges, corn mills, &c.

The Hamps and the Manyfold are two small streams which rise in the Moorlands, and fall into the Dove. Both of them run under ground a considerable distance near Ilam. The Churnet rises on the northern border of the county and falls into the Dove, near Rocester. A branch of the Dane, as above mentioned, rises in the moorlands, near Leek. The Severn runs for a short distance through the south-western angle of the county.

The canals in this county are numerous. The principal is the Trent and Mersey, or Grand Trunk Canal, which commences in Derbyshire at a place called Wilden Ferry, where the Derwent empties itself into the Trent: thence it runs in a south-westerly direction through Derbyshire to Burton, where there is a cut which communicates with the Trent. The canal then proceeds in a south-west direction till it is joined by the Fazely and Coventry canal at Fradley. About 11 miles north of Fazely it turns to the north-west, and in this part of its course, at Heywood Mill, is joined by the Staffordshire and Worcestershire canal, already described in the account of Worcestershire: continuing in the same direction it passes by Weston to Stone; then taking a more northerly course it passes Burslem, and leaves the county near Church Lawton. The Harecastle tunnel, a little north of Burslem, is 2880 yards long. A small branch canal runs from the Grand Trunk, at Stoke, to Newcastle, which is joined by another small cut to the Gresley canal, coming from the coal-mines in Apedale. A little to the north of Stoke is the Caldon branch, which runs to the town of Leek on the east. From Uttoxeter another canal communicates with the Caldon branch. Besides these canals, several railways branch from the main line of the Grand Trunk, and facilitate the communication with the pottery and coal districts. The Grand Trunk Canal enters Cheshire immediately after leaving the Harecastle tunnel, and joins the Duke of Bridgewater's canal at Preston Brook, which last canal falls into the Mersey at Runcorn Gap, making a course of 93 miles, of which the last six miles belong to the Bridgewater canal. This great undertaking was commenced by Brindley in 1766, and was accomplished with no small difficulty. In its course it passes over 126 aqueducts, besides a very extensive aqueduct over the Dove, and through six tunnels. It has 91 locks. The old Birmingham canal, already mentioned in the description of Warwickshire, joins the Staffordshire and Worcestershire canal near Wolverhampton, after

a course of 23 miles. There are several collateral cuts to the coal mines and iron furnaces. The Wyrley canal begins in the Coventry and Fazely canal, about six miles from Fazely, and terminates in the old Birmingham canal near Wolverhampton: this canal is 24 miles long. The Liverpool and Birmingham Junction canal was began in 1826, and is now completed; it commences where the old Birmingham canal terminates, and joins the Ellesmere canal in the parish of Acton, in Cheshire. Its total length is 39 miles. The Dudley and the Stourbridge canals have been already noticed as traversing the south of this county. A reference to the map will show better than any explanation the extent of inland navigation in this county, and the facilities thus afforded for communication with all parts of the kingdom. The Grand Junction rail-road connecting Liverpool and Birmingham has the greatest part of its course in this county, which it traverses from the south-eastern to the north-western part, passing by Wolverhampton, Penkridge, Stafford, and leaving the county about six miles to the west of Newcastle. The Derby and Birmingham rail-road crosses the Dove, between the junction of that river with the Trent and the point where the Dove is crossed by the Grand Trunk Canal. It runs in the low grounds along the left bank of the Trent, to the junction of the Trent and Tame, and then along the right bank of the Tame to Tamworth, from which town its course to its junction with the London and Birmingham rail-road is in the county of Warwick. The Manchester and Birmingham rail-road enters this county near Harecastle, and traversing the Potteries passes Stone, joining the Grand Junction near Stafford.

The new red sandstone formation occupies most parts of this county, except where the coal-fields occur. The chain of hills on the north of Dudley are limestone; the chain on the south of Dudley consists entirely of one mass of basalt and amygdaloid. Coal abounds in this county, but the quality is inferior to that of the best Newcastle coal.* Ironstone is also extensively distributed, and limestone is most abundant. The coal beds of the southern coal-field have been ascertained to extend over a space of about 60 square miles, and there are in many places beds of eight, ten, or even twelve yards thickness. Some of the pits near West Bromwich are 600 feet deep. These thick beds of coal are divided into several seams, by extremely thin partitions, which do not prevent the whole from being excavated in one mass. The coal district extends north to south from Rugeley to near Stourbridge, and from east to west, from Walsall to Wolverhampton—its greatest length being about 25 miles, and its greatest breadth about five or six miles. This coal-field differs in its geological features from those which occur in the other parts of England. The millstone grit, and mountain or carboniferous limestone, and the old red sandstone, on which the coal-measures usually rest, are here found wanting, and they immediately overlie the transition limestone. The beds of sandstone, alternating with the coal and ironstone, are likewise few and very thin, and of small importance compared with those which occur in the great coal-field of the northern counties. Numerous pits are sunk in this coal-field. Five thin seams of coal occur before the main bed, or "ten yard coal," which is most extensively worked in the neighbourhood of Dudley, where its depth from the surface is generally about 120 yards. This seam crops out near Bilston, and the northern half of the coal-field is entirely occupied by the lower seams of coal, which are chiefly worked to the north of a line drawn from Wolverhampton to Walsall, and underlie the open tract termed Cannock chase. Various beds of clay-ironstone alternate with the coal strata; the principal of those wrought for the iron ore is that which immediately underlies the main coal seam. Iron is thus obtained most abundantly and of the best quality in the vicinity of Wednesbury, Tipton, Bilston, and Sedgeley.

The abundance of coal and iron, and the proximity of excellent limestone and fire-clay, render this district most active in mining and manufacturing industry, and give to it a most striking and singular appearance: the following characteristic description of this part of the county is taken from the *Mining Review*. "To the tourist or casual traveller, this tract affords many objects of great interest; the effects of mining operations on a gigantic scale being everywhere palpably placed

* It is of a less bituminous nature. When used for the purpose of making gas, it is found to afford from thirty to thirty-five per cent. less from a given quantity than the Newcastle coal, and its heating power is considered to be inferior in nearly the same proportion.—*Burr's Geology*.

before his eyes, by the unusual appearance of the country, thickly studded with steam-engines, with blast furnaces, and with railways, and presenting evident marks of being completely honeycombed below, in the vast unsightly mounds of rubbish which are scattered in all directions upon the surface. The effect of this unusual scenery is not a little increased by the enormous volumes of dense smoke which hover round in all directions, and obscure the sky, while at night the view is rendered still more striking, the whole horizon being illuminated by the light of innumerable coke fires and blast furnaces." In the north part of the county there are likewise two smaller coal-fields in the neighbourhood of the Potteries: one lying on the north-east of Newcastle is of a triangular form, having its two sides nearly ten miles each, and its base about seven miles; the vertex is near Congleton, and Newcastle is nearly in the centre of the base. It has been ascertained near Burslem, that there are 32 seams of coal varying from about three to ten feet in thickness. The other coal-field is in the vicinity of Cheadle and of Dilhorne; it is about five miles long and three miles broad, and is of little importance. The North Staffordshire coal is of very good quality. A species called the peacock coal, from the prismatic colours which it exhibits, is dug up in many places. The ironstone, which usually lies under and alternates with the coal, is likewise worked; and there are several blast furnaces in the vicinity of the Potteries. Copper and lead ores likewise exist in this county, and both of them are worked. The hills of Sedgeley and Dudley Castle, in the south part of the county, are of limestone, which also occurs at Rushall and Hayhead, and in inexhaustible abundance on the north-east moorlands, and along the banks of the upper part of the Dove. Several tunnels on the numerous canals of this county are cut through solid limestone rocks. The lime is sent to various places for mortar, and is also applied as a manure. In some places this limestone approaches to and passes into marble, and in others, as at Dudley, it is chiefly composed of organic remains. Grey marble is found at Stansop and at Pokehill; and not far from Bentley hill, marble of a jet black colour is obtained, but it is so hard as to be worked with difficulty. Alabaster occurs abundantly, particularly on the banks of the river Dove; and there were formerly extensive quarries of it, but at present few of them are worked. There are large quarries of freestone in various places. Potters' clay of several sorts is found, particularly in the pottery districts in the north-west part of the county. At Amblecot there is a clay of a dark bluish colour, which is the best material for glass-house pots of any in England*.

The soil of this county varies from stiff and strong clay to loose and light sand. The strong clayey soil prevails in a considerable tract between the Trent and the Dove, extending from Burton, westwards, beyond Stone. Another tract of the same soil extends from Stone southwards to Brewood, and from Stafford to the western border of the county. It also occurs in a narrow tract on the south-west, near the Severn. The light soil occurs in a tract which stretches from the Trent, southwards, along the Tame and the eastern border of the county, nearly to Birmingham; and from the Tame, westward, beyond Lichfield. In another district on the south-west this soil occurs on each side of the river Stour, from Pattingham southwards to Worcestershire. A calcareous soil is found in a district of considerable extent, situated chiefly between the Dove and the town of Ipstones, on the west, and between Fazely, on the south, and Warslow on the north. Two other tracts of smaller extent occur at Walsall and Dudley, on the south-east. In some particular spots peat earth forms the soil of the banks of the rivers, and when properly drained and ameliorated, it becomes valuable pasture and meadow land. The mixed soil of sand and clay, or loam, comprehends the remaining parts of the county. Staffordshire is well-stocked with wood of every description, and many plantations of valuable timber are scattered throughout the county. The agriculture is principally arable, although there is much grass land along the rivers, and more cattle and sheep are reared within the county than is sufficient for the consumption. The usual crops under tillage are wheat, barley, oats, beans, vetches, turnips, with rye, some peas, cabbages, and rape in particular districts, and some of the artificial grasses.

* The seggars, or boxes in which the porcelain is baked, are made of fine clay mixed with old ground seggars; but the clay found here which is used for this purpose is not so good as that used in France.

Staffordshire is divided into five hundreds, comprising 224 parishes, in which there are one city and more than 20 market-towns. It is likewise politically divided into north and south divisions, each of which is represented by two members in Parliament.

The northern division comprises— Hundreds: Pirehill, Totmonslow, and part of Offlow.

The southern division comprises— Hundreds: the remaining part of Offlow, Seisdon, Cuttlestone.

Stafford, a municipal borough, is the county town, and the place of election of the north division of the county. It is 111 miles N.W. of London, on the north bank of the river Sow, near its confluence with the Penk, and four miles and a half in a straight line above its junction with the Trent.

The streets are well paved, and most of the houses are built in a regular manner, of brick or of stone. Stafford sends two members to parliament.

There are three churches, two of which are of some antiquity, besides various places of worship for dissenters. The county-hall, situated near the centre of the town, is a spacious modern building; and at the back of it is a large and convenient market-place. The county infirmary is a plain, respectable building. The county gaol, situated nearly opposite the infirmary, is on a large scale, and contains about 150 separate cells. Near the county gaol is the county lunatic asylum, which is capable of accommodating a great number of patients. A free school was established here in the reign of Edward VI. There are likewise a national school, infant and Sunday schools. A castle formerly stood about a mile and a half south-west of the town, upon the site of which two towers and a banqueting room have been erected, on the plan of the original building. This castle was the property of the Staffords, Dukes of Buckingham, hereditary High Constables of England, and forfeited in the time of Richard III: it is now possessed by their descendant, Lord Stafford. The chief manufacture of Stafford is boots and shoes; there is also some tanning, and a considerable traffic is carried on by means of the inland navigation already described. Stafford appears to have been a place of some importance even in the time of the Saxons.

Newcastle-under-Lyme, an ancient municipal borough, takes its name from a castle now in ruins, but which when built was termed the New Castle, to distinguish it from an older one in the neighbourhood. The town stands on the banks of a small branch of the Trent. The appellative under Lyme is derived from an ancient forest of that name extending into Cheshire, and the same appellation is common to other places in its vicinity. It is 15 miles N.N.W. of Stafford, and consists of two wide streets, running parallel to each other, and smaller ones intersecting them. The principal streets are well-paved, and the houses generally built in a neat and regular manner. The town has two churches, one of them with a lofty ancient tower, and several meeting-houses for dissenters. Newcastle has a free grammar-school, founded in the reign of Elizabeth by John Cotton; four day schools, and one day and Sunday national school, are partly supported by an endowment, called "Hatsel's Charity." In addition to these there are two other endowed schools, one an English school, and the other a mistress's school for young children. The market-place, situated in the centre of the high street, is extremely good. The chief business of the town is in the manufacture of hats, which is carried on to a considerable extent, as are also the silk and cotton trades. Newcastle sends two members to parliament, and the limits of the franchise have been extended by the Boundary Act. Before the opening of the Grand Junction Railway, 32 stage coaches passed through this town daily: there is now only one. In the vicinity of Newcastle is the district of the Potteries, which occupies an extent of about 10 square miles. Within this space there are several populous towns and villages, in all of which almost the only employment is the manufacture of porcelain, earthenware, stone ware, and other ware, of which clay forms part of the material. All through this district the soil contains a great variety of clays, which are adapted to the use of the potter. One kind of clay, which is almost peculiar to the district, will bear an intense degree of heat, a quality which renders it of great value to the porcelain manufacturer, by whom it is made into cases called Seggars, in which the porcelain is placed in the ovens to be hardened. Under the clay are rich beds of coal, which are easily worked. With these

natural advantages, potteries were early established here, and some antiquarians suppose that they have existed on this spot ever since the time of the Romans. However this may be, the manufacture was confined to a few objects of the commonest and coarsest description, until the beginning of the eighteenth century. About that time some great improvements in the art were made by two Dutchmen of the name of Elers, and subsequently by Astbury; but it remained for Wedgwood to give to English pottery the value which it at present holds, and thus to make it an article of great commercial importance. This district, which is naturally barren, has, by means of the potteries, been raised both in population and wealth. Wedgwood invented seven different kinds of ware, by a course of scientific experiments combined with practical knowledge.

The works of Wedgwood are situated at Etruria about one mile and a half from Newcastle, a place of his own creation, and which he so named in consequence of his successful imitation of the ancient Etruscan vases. The ample fortune which Wedgwood acquired was liberally distributed in fostering genius and promoting objects of utility.

The district of the Potteries obtained under the Reform Act the privilege of being represented by two members in parliament. The elective franchise extends over a district, which includes the several townships of Penkhull, with Boothen (in which is the town of Stoke-upon-Trent, one mile and a half east of Newcastle-under-Lyme); Tunstall; Burslem, three miles from Newcastle; Hanley, two miles north-east of Newcastle; Shelton; Fenton Vivian; Lane End; Fenton Culvert; Longton; the Vill of Rushton Grange; and the Hamlet of Sneyd. The whole of these are comprised in the new borough of Stoke-upon-Trent. The North Staffordshire Infirmary, an extensive and most useful modern institution, stands nearly in the centre of the Potteries district at Etruria.

Leek, a market-town, situated in the moorlands, on the river Churnet, is on the great road from London to Manchester, and about 22 miles N. by E. of Stafford. The church is the only public building worth notice. The manufactures consist principally of silk and mohair; and the cotton manufacture also has to some extent been established here. There is a copper mine in the vicinity.

Cheadle, a market-town, 14 miles N.N.E. of Stafford, is pleasantly situated in a vale, but surrounded on all sides by bleak and almost barren hills, which however abound in coal-mines of considerable value. It contains a large church, newly rebuilt, and a free school. There are extensive manufactories of copper, brass, and tin, in the neighbourhood. Cheadle, Leek, and Newcastle are all polling places for the county.

Uttoxeter is an ancient market-town, 13 miles E.N.E. of Stafford, situated on a gentle eminence, near the western bank of the Dove, which is crossed by a fine bridge. Uttoxeter is a large and well-built town, and has a fine open market-place in the centre with three streets branching from it. The church is an ancient structure, with a lofty steeple. The town has a free-school. The market is well supplied with cattle, pigs, sheep, and cheese, and other farm produce, from the rich meadow and pasture lands which surround the town.

Stone, a market-town, six miles north of Stafford, on the banks of the Trent, and near the Grand Trunk Canal, principally consists of one long street, with a convenient market-place of modern formation. There are two churches. Here is a free grammar and charity school, and an endowment for the support of poor widows. This town also has increased in trade and population since the extension of the inland navigation. A considerable manufacture of shoes is carried on in this town.

Eccleshall, six miles west-north-west of Stafford, is a neat town, the houses being in general well built. It has a good church and a charity school. Near to the castle, which was founded at a very early date, is the principal residence of the bishop of Lichfield; only a round tower remains of the original castle.

Burton-upon-Trent is a market-town of great antiquity, 21 miles due east of Stafford, and on the west bank of the Trent, which is crossed by an old narrow bridge of 36 arches. The river is navigable from Burton to its mouth for barges of considerable size. The town consists of one principal street, which runs parallel to the river, and another which crosses it at right angles. The church is a neat edifice, erected rather more than a century ago. A second church has also been built within a few years. The town hall is a large modern

building. Burton has a free grammar-school, and two almshouses. Some extensive cotton-mills have been established here, and there is a considerable manufacture of hats, and of iron articles; but the chief production of Burton is its excellent ale, which is made in large quantities, both for home consumption and for exportation.

Lichfield, the principal place in the southern division of the county, is 119 miles north-west of London, and 16 miles south-east of Stafford. It is a very ancient city, and the see of a bishop; it is likewise a county of itself, and represented by two members in parliament. The limits of the county extend over a surface the greatest length of which from north to south is three miles, and from east to west two miles and a half. The city, which is situated in a fine healthy valley, derives its chief importance from being inhabited by the dignitaries of the cathedral church, and persons of independent fortune. Lichfield is the birth-place of Dr. Johnson. The city is neat and well built, and consists of three or four principal streets, and some smaller ones: some of the houses are large and handsome. In the north-west part of the town is a large pool of water, which adds much to the beauty of the place; and at the other side of this pool is "The Close," which contains the cathedral, the bishop's palace, and other buildings connected with the church. The cathedral, which is supposed to have been founded about the year 667, was renewed and enlarged at a subsequent, but very early date; and the present structure, though it has been repaired and improved, is of great antiquity. The building from east to west is 411 feet in length, and 67 in breadth from north to south. An elegant steeple rises in the centre to the height of 258 feet, and there are two smaller steeples at the west end. The entrances, both on the south and north sides, are very handsome, and extremely rich in mouldings. There are also numerous figures on the west front, representing scriptural subjects. The library which belongs to the cathedral contains several valuable books and manuscripts. The bishop's palace is a spacious building of stone, but the bishops have for some time back fixed their residence at Eccleshall Castle, and the palace at Lichfield is generally occupied by tenants. There are three other churches, two of which are of very ancient date: that of St. Chad was founded before the cathedral; and the church of St. Michael's, situated on the mount called Greenhill, is remarkable for the extent of its cemetery, which contains seven acres of ground. The market-house is a light building of brick: the Guildhall is a handsome stone edifice, with a gaol under it. There is a small theatre. The free grammar-school was founded by Edward VI. There is also another endowed school, called the "Minors' School;" and two national and two infant schools. The chief manufactures of Lichfield are hor[illegible] sheetings and sail-cloths; it is likewise noted for its ale. Lichfield is a polling place for the county, and the place of election for the south division of the county.

Tamworth is a borough and market-town, situated at the confluence of the rivers Tame and Anker, 22 miles south-east of Stafford. This town is partly in the county of Warwick. It sends two members to parliament, and the franchise has been extended by the Boundary Act to the whole parish, which comprises an area of about 10,000 acres. The town is large and well built, and surrounded by rich and luxuriant meadows, which are watered by the rivers Tame and Anker. There is a bridge over each of the rivers. The church is a very large and ancient building, which contains specimens of several different styles. Besides the church there are several places of worship for dissenters. The hospital was founded by Guy, the same individual who founded the large hospital in Southwark which bears his name. There are also three schools supported by an endowment. Tamworth castle is of early Norman architecture, and rather a heavy building. The exterior is still kept in tolerable repair, but the inside is much dilapidated. A variety of manufactures are carried on here: to the east of the town there is a considerable tape factory; tanning, calico-printing, and brewing, are flourishing branches of business.

Walsall, a market-town, is pleasantly situated on a gentle elevation, 17 miles S.S.E. of Stafford. It is a very flourishing and improving place, and was made a parliamentary borough by the Reform Act: the elective franchise extends to the whole parish. It sends one member to parliament. The town principally consists of 12 large and regular streets. One church, which is of great antiquity,

is in the form of a cross; another has been lately built. The free grammar-school was founded in the reign of Elizabeth. Various manufactures are carried on in the town, chiefly of guns and other fire-arms, gas tubes, and all kinds of hardware which are employed in saddlery. Branches from the old Birmingham and the Wyrley canals come up to this town.

Wolverhampton, one of the most extensive and populous towns in Staffordshire, is situated on rising ground, 16 miles south of Stafford, and in the vicinity of numerous coal-mines. The houses are tolerably well built of brick and tile, but most of the streets are narrow and dirty. There are three churches, one of which is collegiate with a dean formerly annexed to Windsor; three chapels of ease, numerous dissenting chapels, a free school, and two charity schools. The manufacture of japanned ware, locks, keys, and similar articles, form a very large branch of business. Nearly 2,000 men, 20 years old and upwards, are engaged here in the manufacture of all kinds of iron-ware. The canals in the immediate vicinity of the town have contributed to extend its trade. Both Wolverhampton and Walsall are polling places for the county.

About a mile to the south-east of Wolverhampton is Bilston, situated on the great road from London to Holyhead, through Shrewsbury. It is rather an irregular straggling town, but of increasing importance. It contains numerous manufactures of japanned and enamelled goods, and iron-ware. In the vicinity there are valuable quarries of freestone, and productive mines of coal and ironstone: there is also a particular kind of orange coloured sand, which is used for casting in moulds. There are several furnaces for smelting iron ore; and slitting mills, and various other machinery, worked by steam. A large district surrounding the two towns of Wolverhampton and Bilston, and including the respective townships of Wolverhampton, Bilston, Willenhall, and Wednesfield, and the parish of Sedgeley, was formed into the parliamentary borough of Wolverhampton, by the Reform Act, and is now represented in parliament by two members.

Seven miles south-east of Wolverhampton is West Bromwich, which, till within the last very few years, was a town of no importance; but it is now a busy, manufacturing place. Above 1,000 men, upwards of 20 years of age, are employed in the further preparation of iron for the forge and the workshop, and a great proportion of the women and children are employed in making nails.

Wednesbury, which is on the river Tame, not far from its source, and about six miles E.S.E. of Wolverhampton, is a place of great antiquity. In the time of the Mercian kings there was a noble castle here, but every trace of it has disappeared. On its site on the summit of a hill is the church, a fine building in the pointed style. Here are likewise three meeting-houses for dissenters. Abundance of excellent coal is found in the neighbourhood. A peculiar species of iron ore, denominated blond metal, which is used chiefly in the manufacture of nails, horse-shoes, and hammers, and other heavy tools, is found in the vicinity; and in some parts a peculiar sort of red earth occurs, which is employed in the glazing of vessels. The principal manufactures are those of guns, coach-harness, iron axletrees, &c., and cast-iron works of every description. Enamel painting is also executed in a superior style. The collateral branch of the Old Birmingham canal to Walsall passes this town.

Brewood, a small market-town, nine miles and a half south by west of Stafford, is of ancient date. There was a nunnery here in the reign of Richard I.

Penkridge, situated on the small river Penk, five miles and a half south of Stafford, is an ancient town, supposed by some to be the Pennocrucium of Antoninus. Here was once a monastery, and the church was formerly collegiate. The town contains a national and a Sunday school. Penkridge is one of the polling places for the county. Near Penkridge there is a fine viaduct of the Grand Junction Railroad.

Rugely, a market-town, eight miles and a quarter E.S.E. of Stafford, is situated near the right bank of the Trent. It is a well built town, containing some good houses. The church was an ancient building, with a handsome tower: only part of this church is now left standing, and there is a new one. There is a grammar-school endowed by Queen Elizabeth, and also another endowed school, besides infant and other schools. This town is on what was the great road from London to Lancashire and Holy-

head, and the Grand Trunk Canal passes by it; in consequence of which the place has a thriving appearance.

Abbot's Bromley, 10 miles east of Stafford, is a polling place for the county.

Tutbury, situated in a valley on the right bank of the Dove, 19 miles E.N.E. of Stafford, is noted for its ancient castle, which stood on a hill of considerable height near the town. It was first built in the time of William the Conqueror by Henry de Ferrars, but was forfeited to the crown in the reign of Henry III. It then fell into decay, and was rebuilt in 1350 by John of Gaunt, and became the principal seat of the Dukes of Lancaster. Mary, Queen of Scotland, was confined for some time in this castle. There are still some remains of Tutbury Castle; the gateway is tolerably entire, and the ruins of the walls show them to have been of immense strength and thickness. A priory was also founded here at the same time as the castle, and it became richly endowed. There are now scarcely any remains of the priory buildings, which once occupied a great area. The present parish church, which is a part of the old priory church, has a square embattled tower at one end, surmounted by four small pinnacles; there is also a meeting house for dissenters. Tutbury has an endowed school, infant and Sunday schools. The principal occupation of the inhabitants is wool-combing; there is also a cotton manufactory.

Population of the market-towns and city of Staffordshire.

Stafford (B)	6,998
Lichfield (city)	6,499
Abbot's Bromley (P)	1,621
*Burton (P)	6,988
Tutbury (P)	1,553
Uttoxeter (P)	4,864
Cheadle (P)	4,119
Hanley (C)	7,121
Leek (T)	6,374
Longnor (C)	429
Burslem (P)	12,714
Newcastle (B)	8,192
Stone (P)	7,808
Eccleshall (P)	4,471
Rugeley (P)	3,165
Penkridge (P)	2,991
Brewood (P)	3,799
*Wolverhampton	24,732
Bilston (C)	14,492
Walsall (P)	15,066
†Tamworth (P)	7,182
West Bromwich (P)	15,327
Wednesbury (P)	8,437

Authorities.

Shaw's History of Staffordshire.

Pitt's General View of the Agriculture of Staffordshire.

Plott's Staffordshire.

Ancient and Modern State of Lichfield.

Harwood's History of Lichfield.

SHROPSHIRE, OR SALOP

Is bounded on the east by Staffordshire, on the south by Worcestershire, Herefordshire, and Radnorshire, on the west by Montgomeryshire and Denbighshire, on the north by Flintshire and Cheshire. Its figure is that of an irregular parallelogram. The greatest length from north to south is 47 miles, and from east to west about 40 miles; the area is 1386 square miles.

The aspect of this county is characterized by great variety of surface. In the south-west there is a mountainous district, which geographically belongs to the Welsh mountains system, and in some parts is of considerable elevation, (p. 62.) There are several detached ridges in this county; the principal is the limestone ridge of Wenlock Edge, which divides the basin of the Severn into two parts (p. 70.) This ridge runs nearly in a N.E. direction, bounds the small vale of the river Onny on the S.E., and passes to Much Wenlock and Coalbrook Dale, where the Severn makes its way through the high ground, which continues in a N.E. direction till within a few miles of the boundary of the county. Forming part of this high ground, yet almost detached from it, is the Wrekin, a remarkable hill about nine miles E.S.E. of Shrewsbury, which rises to the height of 1320 feet. South of Wenlock Edge, and commencing about four miles south of Much Wenlock, are the Clee Hills, a ridge which runs nearly N. and S., and terminates on a parallel with Ludlow, a

* Part of this parish is in Derbyshire; the part in this county contains 4,399 inhabitants.

* The whole parish, including Bilston, contains 48,080 inhabitants.

† Greater part of this parish is in Warwickshire: the part in this county contains only 3,817 inhabitants.

few miles E. of that town. Brown Clee, the highest of these hills, is 1806 feet above the sea level. West of Wenlock Edge, and nearly parallel to it, is the range which contains Caradoc hill and the Lawley hills; and west of these is a ridge which belongs to the system of the Welsh mountains—called the Longmynd—the greatest elevation of which is 1674 feet. The high ground from this ridge extends northward, but in an irregular direction, to within a few miles of Shrewsbury. Another ridge of some length, called the Stiperstones, lies to the west of, and runs parallel to the Longmynd.

From a point a little north of Church Stretton, which is near the northern extremity of the Longmynd, northward to Shrewsbury and thence still northward, nearly the whole breadth of the county is low land. This district, which is termed the plain of Salop, joins the plain of Cheshire on the north. It is divided by the Severn into two unequal portions. From south to north, from Church Stretton to Whitchurch, it is about 30 miles in length, and its breadth from Oswestry to Coalbrook Dale, is about 28 miles. The western boundary of the plain of Salop is formed by the Longmynd, the Breiddin hills, and those which extend from Llanymynech northward: it is terminated on the north by the slight elevation which separates it from the plain of Cheshire and from Flintshire. The eastern boundary consists of the hills on the Staffordshire border, and it is terminated on the south and south-east by Wenlock Edge, and the other high ground already described as its continuation.

This plain, though comparatively level, has still a considerable variety of surface, especially near its southern boundary, where it is generally of an undulating character. To the south-east of Wenlock Edge there is also a considerable tract of level land, forming part of the vale of the Severn.

The principal rivers of Shropshire are the Severn, the Tern, and the Teme, to which may be added the Virnwy, which for several miles separates this county from Montgomeryshire.

The Severn enters the county from Montgomeryshire at its confluence with the Virnwy near Melverley, and then flows eastward, with a very winding course, to Shrewsbury, which town it almost encircles. Its general course is then south-east to Coalbrook Dale, from which point it runs in a general southern direction past Bridgenorth, and leaves the county near Bewdley on the borders of Staffordshire and Worcestershire. The Severn thus divides the county into two nearly equal parts, of which it forms the natural drainage; and thus the general slope of these natural divisions may be considered as meeting in the bed of this river. Its course through the county is about 60 miles, in every part of which it is navigable, except in very dry weather, and during high floods, for barges, trams, wherries and boats. It contains salmon and various other kinds of fish. The river Virnwy is more properly a river of Montgomeryshire, and forms only a very small part of the boundary of this county. The Tern rises on the north-eastern border of the county, and forms for a few miles the boundary between Shropshire and Staffordshire, after which it runs in a south-west course to its confluence with the Severn near Wroxeter. The Teme rises in Radnorshire, and forms for some distance the boundary between this county and Radnorshire and Herefordshire; it then enters Herefordshire, from which county it flows into Shropshire, about three miles west of Ludlow: its course is within Shropshire, from Ludlow to Little Hereford; it then runs to Burford, from which place it forms the boundary to a point about two miles below Tenbury in Worcestershire. The Corve, which joins the Teme a little above Ludlow, drains the longitudinal valley contained between Wenlock Edge and the Clee Hills; and the Rea, which joins the Teme a few miles below Tenbury, drains a large part of the plain contained between the Clee Hills and the Severn. The valleys contained between Wenlock Edge and the Longmynd, and between the Longmynd and the Stiperstones, are drained by the Onny and its branches, which joins the Teme about two miles above the junction of the Corve and the Teme.

The Donnington Wood canal commences at the junction of the Shropshire and Shrewsbury canals, and extends to Pave Lane, three miles south of Newport, a distance of about five miles, with a short branch to the lime-works, of a mile or two, commencing near Lilleshall, which is situated north of the canal.

The Shropshire canal commences at the end of the Shrewsbury canal, in the parish of Lilleshall, and runs to Hay, near which place it is united to the river

Severn, two miles below Coalbrook Dale. It is seven and a half miles in length. This and the Shrewsbury canal are distinguished by a peculiarity of construction, which was first adopted in 1788. Instead of locks, inclined planes are used, three of which are constructed in this canal. These planes have a double iron railway, and a loaded boat passing down one of these will bring up another on the other railway, nearly equal to one third of its own weight. The Shrewsbury canal has one inclined plane with a rise of 75 feet, and a lockage with a rise of 79 feet. There are several short collateral cuts and railways proceeding from the Shropshire canal to the numerous collieries, iron-works, &c. in the neighbourhood. The Birmingham and Liverpool junction canal passes through the N. E. angle of this county. There are many small lakes in the county, of which Ellesmere, the largest, covers about 116 acres of land, and its margin is finely wooded: it is well stocked with fish.

The Ellesmere and Chester canal enters the county from Cheshire, near Whitchurch, and runs to the town of Ellesmere, and thence out of this county, near Chirk, into Denbighshire. A collateral cut called the Llanymynech branch runs to the S. W. and joins the Montgomery canal.

The Shrewsbury canal commences at Shrewsbury and follows, for a few miles, the windings of the Severn: it then runs in the valley of, and nearly parallel to the Tern, which river it crosses by an aqueduct near Longdon, and joins the Shropshire and Donnington Wood canals at Wrockwardine wood. At Preston, near the Severn, it passes through a tunnel 970 yards long and 10 feet wide. The length of the canal is 17 miles.

In the greater part of the county, the upper soil rests on the new red sandstone formation. The rock of the Wenlock ridge is transition limestone, belonging to the class of "Silurian rocks," which have lately received that name from Mr. Murchison. Basalt occurs in the Clee hills, and in the Wrekin. The south-west angle of this county, and the Longmynd hills, and the Stiperstones, are composed of slate, schistus, &c—the rocks in which lead-ore and other metallic veins are found.

The mineral productions of this county are particularly valuable. Coal is found in great abundance, and of excellent quality. The principal coal-field lies in a district near Coalbrook Dale, about six miles in length and two in breadth, beginning in the parishes of Barrow and Much Wenlock, on the west of the Severn; the boundary of the coal runs through the parishes of Brosely, Madeley, Little Wenlock, Wellington, Dawley, Shifnall, and Lilleshall, in every part of which district coal is found at various depths. The strata alternate with ironstone, sandstone, and slaty clay. The measures of this coal-field rest at once on the transition limestone; the millstone grit, the carboniferous limestone, and the old red sandstone, being absent, the same as in the Dudley coal-field. This coal district is bounded on the east by a long broad belt of sandstone, beginning a little to the north of Shifnall, and following the course of the Severn till it quits the county: on the south and west, it is bounded by transition limestone and the basalt of the Wrekin. The coal from this field is, in general, a mixture of slate coal and pitch coal.

The ironstone is not very rich, but being found in conjunction with coal and limestone, the fuel and the flux, by means of which the metal is extracted from the ore, it is profitably worked; and owing to this favourable combination of circumstances, Coalbrook Dale and its vicinity are become the seat of some of the most extensive iron-works in the kingdom. In this coal-field, near the inclined plane of the Shropshire canal, there is a remarkable spring, about three-quarters of a mile from the Severn, of petroleum, which has yielded a great quantity of that substance, but the supply is now much diminished. This spring was discovered upon cutting into a new red sandstone hill in search of coal. At first the petroleum issued out to the amount of three or four barrels per day, but in 1797, when Aikin made his interesting tour, this quantity was diminished to only half a barrel per day. There is also a brine spring in this district.

At the other side of the Wrekin, west of the Coalbrook Dale field, in the plain of Shrewsbury, a few detached narrow irregular coal-fields occur. There are also some very small unimportant coal-fields on the Clee hills. In the Brown Clee hills, the coal only lies in thin strata: but in the Titterstone Clee hill, which is about four miles south of the former, the principal stratum of coal is six feet thick. This coal basin has been broken into several detached pieces, and other-

wise disturbed by a vast basaltic dyke, more than a hundred yards wide, which intersects the Titterstone hill.

In the north-western part of the county, other coal-beds occur, forming part of the Flintshire and Denbighshire coal-field, which extends over a district about forty miles in length, from near the western cape of the æstuary of the Dee to a little way south of Oswestry; its breadth seldom exceeds three or four miles. In this county, the coal of this field is worked near Oswestry, and in the Valley of the Ceiriog, opposite Chirk. In the interval between these two places, the coal is not worked. The intermediate rocks, between the coal measures and the transition limestone, are not wanting here as in the Coalbrook Dale field. The carboniferous limestone crops out from beneath the coal measures westward, and is so irregular that, in some parts, it rises 500 feet above the plain, and in others scarcely appears above the level of the soil. In many parts, especially near Oswestry, the limestone is perfect marble; and small quantities both of lead and copper have been found in it. On the east, the coal-field is terminated partly by a ridge of freestone or sandstone, which runs mostly along the course of the river Perry, crosses the Severn, and terminates in the high grounds at Bicton and Onslow. The lead mines of the county are in that rocky range of which the Stiperstones form a part; calamine or zinc ore is also found here.

Shropshire contains a great variety of soils. On the south-west the high lands consist principally of a slippery kind of schistus, with a very thin upper soil, and are covered, for the most part, with heath and short grass which supplies pasture for numerous sheep. On the west of the county, farther north, there are some tracts of deep loam lying over limestone. To the south of Shrewsbury the loam is more of a gravelly nature, and in other parts the soil is sometimes sand, sometimes clay: the clayey soils are either upon the new red sandstone or gravel or sand. To the north and north-east, about and beyond Shrewsbury and Wellington, there is some low land which contains peat, with some good meadow land and some soils, either of sand, gravel, or pebbly loam. On the north-west there is a considerable quantity of deep loam, and also gravelly soil. On the south and south-east argillaceous soil prevails, and this part of the county contains considerable quantities of coal, ironstone, and limestone. The climate of Shropshire varies considerably with the elevation of the surface, but it is generally considered healthy. On the eastern side of the county, the harvest frequently begins a fortnight sooner than in the middle parts, which are of less elevation, a difference which seems to depend, therefore, on the difference of soil, and not on the relative height: in the south-west the crops are still later. This county is in general well cultivated, and produces much more grain than is sufficient for its own supply. On the rich pasture ground along the banks of the Severn many cattle are fed, and a large proportion of the cheese, called Cheshire, is made in this county. The high lands are fed on by numerous flocks of sheep, the wool of which is considered of a fine quality. The crops commonly cultivated in this county are wheat, barley, oats, peas, and turnips. Hops are cultivated to a small extent near the border of Herefordshire; hemp and flax are also raised in small quantities. There are some fine oak woods in this county, and a considerable number of hedgerow trees, principally ash and oak. In the south-west district, birches are common, both as trees and fences. There are also many large tracts of coppice wood, which is in great demand at the iron works for charcoal. Several extensive modern plantations keep up the stock of timber, of which a large quantity is annually felled.

Shropshire is divided into 14 hundreds, comprising 233 parishes, which contain 16 market-towns. It is now likewise politically divided into north and south divisions, each of which sends two members to parliament.

The northern division comprises, Hundreds—Oswestry, Pimhill, North Bradford, South Bradford, Shrewsbury Liberty. The southern division comprises, Hundreds—Brimstrey, Chirbury, Condover, Ford, Munslow, Overs, Purslow, (including Clun,) Stottesden, Wenlock Franchise.

Shrewsbury, the county town, and the place of election for the north division, is 154 miles north-west of London. It is represented by two members in Parliament, and the franchise has been considerably extended by the Boundary Act. This town is on the Severn, which completely encircles it, with the excep-

tion of a small space to the north about one furlong and a half in breadth. In this open part the Shrewsbury canal enters the town. The town stands on two gentle elevations which command a view of the surrounding country. A margin of garden or meadow-ground lies between the buildings and the river, except at two points; on the east and on the west respectively, where the stream is crossed by bridges. The town is surrounded by some well built houses, but the interior does not altogether correspond to its external appearance, the streets being crooked, and, in general, narrow, steep, and badly paved. There is also an unpleasing mixture of old and new buildings, a circumstance which prevents the town having the character of antiquity, without giving it the appearance of an improving modern place. The remains of an ancient castle stand to the north of the town: the former keep is now converted into a handsome dwelling-house. In the suburbs, on the east, called the Abbey Foregate, are the inconsiderable remains of a once magnificent abbey: all that is left of its spacious church is the nave, which is now used as a parish church. Besides this church there are five churches, and six or seven meeting-houses. The town-hall is a handsome modern building of stone. The market-house, erected in 1595, is remarkable for its size and magnificence. Close to this building is a conduit which supplies great part of the town with water. The market-cross, a massy building with a reservoir over it, was taken down in 1819, when the reservoir was moved further back, and a new market-house erected on the site. The free grammar-school, which was founded in the reign of Edward VI., has of late years had great reputation, and has been attended by scholars from all parts of the kingdom; the school-house is a large, lofty building of free-stone, forming two sides of a square court. There are also several other charity schools. The infirmary stands in a healthy situation, and its internal arrangement is extremely good. It is one of the oldest provincial establishments of the kind in England, having been opened in 1747. The house of industry is on the other side of the Severn, to the south. The town and county gaol and bridewell form one building, which is situated near the castle; it is spacious and airy, and every way adapted for its purpose. A bust of Howard, on whose plan the prison is arranged, stands on an arched gateway in front of the building. The theatre is supposed to be part of the palace which formerly belonged to the barons of Powis. The two bridges over the Severn are called the Welsh bridge, and the English bridge: they are both recent, and were built in the place of others which had gone to decay. The first consists of five handsome arches, and is 226 feet long, 20 feet high, and 30 feet broad. Adjoining to it is a quay with ware-houses. The English bridge is 400 feet in length, and consists of seven semi-circular arches built of freestone. The central arch has 60 feet span, and is 40 feet high. The breadth between the balustrades is 25 feet. At the entrance of Shrewsbury, by the London road, is a fine column of freestone, erected by the inhabitants to commemorate the military achievements of Lord Hill, who is a native of the county. The principal manufactories of the town are, two of linen yarn, an extensive iron-foundry, and a porter brewery. Shrewsbury is also a place of considerable trade, owing to its favourable situation for inland navigation. Many boats are constantly employed on the Severn, between Shrewsbury, Gloucester, and Bristol. The staple articles used formerly to be Welsh flannels, and a coarse kind of woollen cloth made in Montgomeryshire, but this trade is now shared with other towns: still Shrewsbury continues to be a mart for most kinds of Welsh productions and manufacture. On the west side of the town, between it and the river, is a fine public promenade of twenty acres, planted with avenues of beautiful lime trees.

Wellington is a neat market-town, nine miles and a half east by south of Shrewsbury. It has been much improved in modern times, and contains many good houses. The church is a handsome, modern structure, and near it is a good charity school. The greater part of the inhabitants are engaged in working the mineral products of the vicinity, which are coal, limestone, and iron ore. Several large furnaces worked by steam are established in the neighbourhood. Wellington is one of the polling places for the county.

Wem, a small market-town, 10 miles north of Shrewsbury, consists of one large street, with a few smaller ones. Besides the church, which is a handsome building, there are two meeting-

houses, and a good free school founded in the 16th century, by Sir Thomas Adams; the funds, derived from lands invested in trustees, are considerable.

Oswestry is situated on the great road from London to Holyhead, 17 miles north-west of Shrewsbury. This town has been much extended and improved within the last twenty years; the houses are mostly built of brick and roofed with slate. Besides a large church, there are three meeting-houses. Here is a free grammar-school of ancient foundation; also a national school, an infant school, and Sunday-schools. A town-hall, a prison, and a large and well-conducted house of industry are the chief public buildings. Oswestry, being a frontier town on the Welsh Marches, was formerly a walled place, and had a strong fortress, which stood on a high artificial mound at the west side of the town, but few traces of these fortifications are left. Some manufactures are carried on, particularly in flannel; and there is a considerable trade chiefly in shop goods, coarse linens, coarse woollens, and articles of ordinary consumption. This trade has been much increased in consequence of the canal which passes a few miles to the south-east of the town, and opens a communication between the Severn and the Dee and with other inland navigations. Oswestry is a place of great antiquity, and was often the scene of contest between the Britons and Saxons, and afterwards the Britons and Normans. It is a borough, and also one of the polling towns for the county.

Ellesmere is a market-town which derives its name from the beautiful lake on the margin of which it is situated. It is 15 miles N.N.W. of Shrewsbury, is a very ancient place, and was formerly strongly fortified. Ellesmere is now a neat, clean town, containing several well built streets and a spacious church. It has a small endowed school. The principal business is malting and tanning, and its trade has of late derived considerable advantage from the Ellesmere canal, which passes close to it.

Whitchurch, a market-town 18 miles north of Shrewsbury, stands on an eminence, on the summit of which is the church, a handsome modern structure: there are likewise meeting-houses for Protestant dissenters. This town contains a free grammar-school founded in the reign of Edward VI.; a charity-school, an infant-school, and alms-houses. Whitchurch is a polling place for the county.

Seventeen miles north-east of Shrewsbury, and close to the Birmingham and Liverpool Junction canal, is Market Drayton on the river Tern. It is a neat town: the church was erected in the reign of Stephen, and the free school was endowed in the reign of Queen Mary. The town contains two paper and two horse-hair manufactories.

Newport, situated on the borders of Staffordshire, 17 miles E.N.E. of Shrewsbury, consists chiefly of one main street, in the centre of which is the parish church. It contains two free schools, one of which is a well endowed grammar-school.

Ludlow, one of the principal places in the southern division of the county, is 24 miles south of Shrewsbury, on the confines of Herefordshire, from which it is separated by the river Teme, near its confluence with the Corve. The town is neat and well built, and the streets mostly wide, well paved, and lighted. At the north-west end of the town, on a bold and wooded rock which overhangs the river, are the ruins of a castle, supposed to have been founded soon after the Conquest. The walls and towers, which still remain almost entire, are of great height and thickness. Round the castle are public walks shaded with trees, from which there are extensive and varied prospects over the adjacent country. The church, a venerable stone structure in the upper part of the town, is built in the form of a cross, with a lofty tower in the centre. There are also meeting-houses for Dissenters. The other public buildings and institutions are a convenient market-house, a spacious town-hall, an assembly-room, a prison, a neat hospital, almshouses, a free-school, and a blue-coat school, now incorporated with a national school. A stone bridge crosses the river. There is little trade at Ludlow. Several hundred persons in the town were formerly employed in glove making, but that branch of industry has declined. There is now a small factory for making flannel, and a paper-mill. Ludlow is a borough, sending two members to Parliament: the limits of the elective franchise were extended by the Boundary Act.

Shiffnal, a market-town, 16½ miles east by south of Shrewsbury, is a great thoroughfare on the mail road from

London to Holyhead. It has an ancient church and a small charity-school.

Bridgenorth, a market-town and borough, intersected by the river Severn, is 18 miles south-east of Shrewsbury. That part of the town which stands on the east bank of the river is called the Low Town, and that on the west the High Town, from being situated on a hill, which rises 60 yards above the level of the river. The two towns are connected by a stone bridge. The high town consists of two or three principal streets, and others branching off from them. A walk has been made from the highest part of the town to the bridge by cutting a hollow way through the rock, in some places to the depth of 20 feet; the descent is made easy by steps and rails. Many of the houses are built on the rock, and their cellars are excavated in the solid stone. There are two churches and several meeting-houses, and also a free grammar-school founded in 1503. Bridgenorth is a very ancient town, of Saxon origin, and was formerly surrounded by a wall of immense thickness, part of which still remains. A castle of great strength likewise stood here, which was the occasional residence of Charles I. during the civil wars. After his death it was demolished by order of Parliament, and there are now scarcely any remains of the building. Bridgenorth sends two members to Parliament; the limits of the borough were extended by the Boundary Act. This town has two or three manufactories: a large proportion of the labouring class obtain employment in the navigation of the Severn; but the market and the retail trade with the neighbourhood are the principal sources of profit to the inhabitants.

The borough of Wenlock comprises the extensive district called Wenlock Franchise. This district consists of 17 parishes:—Beckbury, Badger, Broseley, Barrow, Benthall, Deuxhill, Ditton Prior, Eaton, Hughly, Linley, Madely, Monk Lopton, Skipton, Stoke St. Milborough, Wenlock, (Little,) Wenlock, (Much,) Willey.

The town of Much Wenlock is a very inconsiderable place, 11 miles S.E. of Shrewsbury. It is ill built, and consists only of two streets. The parish church contains some old parts which probably belong to the Saxon period. The town is noted for its quarries of limestone.

Broseley, on the river Severn, five miles from Bridgenorth, is included in this district. In the vicinity are extensive coal and iron mines, which give employment to most of the inhabitants. There is also a manufactory of tobacco-pipes.

Madely Market, likewise included in this district, is situated near the Severn, 13 miles south-east of Shrewsbury. It appears to be a place of considerable antiquity. The iron trade is carried on here to a great extent, and is much facilitated by means of the Shropshire canal. The iron bridge over the Severn, erected in 1780, is about two miles west of this town and near the romantic village of Coalbrook Dale. It is 100 feet in span, 40 feet high, and contains 375 tons of metal. The iron-works about here are very extensive. Coalbrook Dalê, a deep ravine lying between two large and well wooded hills, has been converted from a beautiful rural scene into one of active manufacturing industry.

Cleobury Mortimer, a market-town on the Rea, a small branch of the Teme, is 25 miles S.S.E. of Shrewsbury. The ancient family of Mortimer had a castle here, fortified by Hugh de Mortimer in 1115, whence the name of the town is derived.

Church Stretton, the election town of the south division, is 12 miles south of Shrewsbury, and is embosomed among fine grassy hills. The chief article of manufacture is a strong linen cloth called hessens, used in packing wool and hops.

Bishop's Castle, an ancient borough and market-town situated on the slope of a hill, is 18 miles south-west of Shrewsbury: a castle belonging to the bishops of Hereford, which was formerly their country place of residence, gave its name to the town. This castle has long been demolished, and part of its site now forms the bowling green of an inn. This town is irregularly built, and has a mean appearance, most of the houses being of unhewn stone, with thatched roofs. The church is a fine old building, with a square embattled tower surmounted by pinnacles. There is a free school founded in 1785 by Mrs. Mary Morris. The market-house is a handsome stone building. The town-hall, including the town-gaol, is a plain brick building, erected in 1750. Bishop's Castle had the privilege of sending two members to Parliament ever since the time of Queen Elizabeth, but it was disfranchised by the Reform Act. It is one of the polling places for the county.

Hales Owen, a market-town seven miles and a half from Birmingham, is in that insulated part of Shropshire which seems more properly to belong to Worcestershire. This town is pleasantly situated in a valley, and contains some good houses. The parish church is a handsome building. There are manufactures of nails, and of several sorts of hardware.

The Romans had, it is supposed, several stations in this county; the principal of which were Uriconium, now Wroxeter, and Rutunium, thought by some to be near Wem. The Roman Watling-street entered the county on the south near Leintwardine, passed to the east of Church Stretton, and, pursuing a bending course, left the county on the east near Crackley Brank. When Shropshire was under the Saxon dominion, in the reign of Offa, an immense rampart of earth was formed for its security, extending 100 miles along the confines of Wales. There are traces of various encampments, and many remains of castles, priories, &c. belonging to the Norman and subsequent ages.

Population of the market-towns of Shropshire:—

Shrewsbury (B)........	21,227
Wellington (P)......	9,671
Newport (P)	2,745
Market Drayton (P)*.	3,882
Whitchurch (P)	5,736
Wem (P)	3,967
Ellesmere (P)	6,540
Oswestry (P)	8,581
Church Stretton (P)..	1,302
Bishop's Castle (P)...	2,007
Ludlow (B)	5,253
Cleobury Mortimer (P)	1,716
Bridgenorth (B)	5,298
Much Wenlock (P)...	2,424
Broseley (P)	4,299
Madely (P)	5,822
Shiffnal (P).........	4,779

Authorities.

A Selection of the Antiquities of the County of Salop.

Bishton's General View of the Agriculture of Shropshire.

Owen and Blakeway's History of Shrewsbury.

* This parish is partly in Staffordshire; the whole parish contains 4,619 inhabitants.

CHESHIRE

Is bounded on the south by Shropshire and the isolated part of Flintshire; on the west by Denbighshire and Flintshire; on the north by Lancashire; and on the east by Derbyshire and Staffordshire. Its form is that of a tolerably regular oval, except on the north-east and north-west respectively, where it runs out in two narrow necks of land, one of which is a hilly tract between Lancashire and Derbyshire; the other, called the Hundred of Wirral, lying between the wide æstuaries of the Dee and the Mersey, is about 16 miles in length and six miles in width. The greatest length of the county from north to south is 31 miles, and from east to west 45 miles. The area is 1,052 square miles. Of this county, a general description has been already given (pp. 27 and 62). The high land is chiefly on the eastern border. That which runs from Church Lawton to Congleton belongs to the high lands of Staffordshire and to that range of which the Mole Cop is the highest elevation. The valley of the Dane separates this hilly tract from that which runs northward past Macclesfield to the banks of the Goyt, a little above Stockport: this bleak and mountainous tract, part of which bears the name of Macclesfield Forest, belongs to the high lands of Derbyshire, and is bounded on the east and west respectively by the valleys of the Goyt and Bollin, both of which rivers flow into the Mersey. The insulated mountainous tract on the north-east lies between the valleys of the Thame and Etherow, both affluents of the Mersey, and belongs to the elevated tract of Longdendale and Holme Moss. A range of high ground crosses the county from north to south, beginning on the west near Frodsham, and, including Delamere forest and the Peckforton Hills, terminates in the Broxton hills near Malpas. This tract of high land is the western boundary of the Cheshire plain, which however is sometimes considered to comprehend the basin of the Dee. To the right of the road between Macclesfield and Knutsford is the insulated high ground of Alderley Edge, from the summit of which there is a most extensive prospect over the wide plain of Cheshire. A tract of high land crosses the peninsula of Wirral in the western part from north to south. The rest of the county is

nearly level, and divided into arable, pasture, and meadow land.

The principal rivers are the Mersey, the Dee, the Weaver, the Dane, the Bollin, the Goyt and the Etherow. The Mersey is formed by the confluence of several streams near the junction of this county with Derbyshire and Lancashire. The Etherow, which descends by the valley of Longdendale from the high tract of Holme Moss, unites near Marple Hall with the Goyt, which flows in nearly an opposite direction from the neighbourhood of Buxton. The Goyt, after its junction with the Etherow, unites at Stockport with the Thame, which flows from the mountainous tract which belongs to Lancashire and Yorkshire. From Stockport the Mersey flows in a westerly direction, and forms the boundary between this county and Lancashire. In its course it receives the Irwell, the Bollin, and the Weaver. After its junction with the Weaver it swells into a broad æstuary, and falls into the Irish Channel below Liverpool. The Dee forms the boundary between this county and Denbighshire for about nine miles of a northerly course: it then continues in the same direction to Chester, the walls of which city it partly encircles: it afterwards flows westward through an artificial channel, formed at great expense by the river Dee Company, and expands into a wide æstuary, which falls into the Irish Sea about 18 miles from Chester. The Weaver rises in Ridley-pool, five miles N.N.E. of Malpas, in the south-west part of the county, whence it flows for a few miles south-east by Wrenbury: near Audlem it turns to the north and flows by Nantwich and Northwich, from which latter town its course is more to the west; it joins the Mersey a little below Frodsham. The river Dane has its source near the junction of the three counties of Cheshire, Staffordshire, and Derbyshire: it forms the boundary between Cheshire and Staffordshire for a short distance, then flows to Congleton, passes within a mile of Middlewich and joins the Weaver near Northwich. The small river Wheelock falls into it near Middlewich. The Bollin rises in the mountainous tract south-east of Macclesfield, and after passing through that town, and past Prestbury and Wilmslow, it falls into the Mersey below Warburton. The Bollin is a rapid and copious stream, and supplies a considerable water-power.

The Weaver has been made navigable from Winsford to Frodsham, a distance of 22 miles, for vessels of 100 tons burthen. The Ellesmere and Chester canal commences on the river Mersey 10 miles south-east of the port of Liverpool, ascends to Chester, and thence passes to Wardle Green, where it is joined by a branch of the same canal from Middlewich. It then continues about a mile to Hurlston Locks, where it divides, one point taking a S.W. direction and entering Shropshire near Whitchurch, the other proceeding to Nantwich and then uniting with the Birmingham and Liverpool Junction canal. The Grand Trunk, or Trent and Mersey canal, enters this county soon after it issues from the Harecastle tunnel, near which it joins with the Macclesfield canal: it then passes Middlewich and Northwich; at Preston brook it communicates with the Duke of Bridgewater's canal, and joins the river Mersey at Runcorn Gap. The Duke of Bridgewater's canal, of which that part of the Trent and Mersey canal from Preston brook to Runcorn Gap may be considered a part, continues from Preston first in a northerly, and then nearly easterly direction; crosses the London road two miles south-east of Warrington, proceeds by Grappenhall and Lymm, crosses the Bollin by an aqueduct, passes Altrincham, and crosses the Mersey by an aqueduct into Lancashire. The Peak forest canal commences in the Manchester, Ashton-under-Line, and Oldham canal, west of the town of Ashton-under-Line in Lancashire; crosses and runs parallel to the Tame for some miles; then, leaving that direction, it passes through a tunnel and crosses the Goyt by an aqueduct 90 feet high. It is joined by the Macclesfield canal in the parish of Marple; and at Whaley, it leaves this county and continues into Derbyshire to Bugworth, where it is joined by the Cromford railway. This canal is 14 miles seven furlongs in length; it was opened in 1800. The Macclesfield canal quits the Peak forest canal near Marple, passes Macclesfield and Congleton where it crosses the Dane, and about six miles beyond joins the Grand Trunk canal. It is 29¼ miles in length.

The principal mineral productions of Cheshire are salt and coal. Copper, lead, and cobalt are likewise found at

Alderley Edge. From Ashton-under-Line just on the borders of Cheshire, a long narrow slip of the Lancashire coal-field extends for more than 30 miles southward; it is however very narrow, being in some places not two miles in width. There is a plentiful supply of coal from this source, and some is obtained from the peninsula of Wirral: but the seams of coal are thin. The principal mineral however occurs in the new red sandstone formation, and consists in almost inexhaustible beds of rock salt which were discovered in the year 1670. The salt is chiefly found near Northwich and Witton. The first bed is generally from 35 to 40 yards from the surface, and its thickness is from 25 to 30 yards. There is then a stratum of indurated clay, from 10 to 11 yards thick, after which the second bed of rock salt appears. This second stratum has been sunk into forty yards. The purest part of it is at from 20 to 25 yards from the surface of the bed, or about 100 yards from the surface of the earth: it continues pure for four or five yards only, and from this part the rock salt exported from Cheshire is almost wholly excavated. Some of the inferior salt is used for the refineries and is made into brine, or is added to the brine from the springs when that is found not sufficiently saturated. Brine springs abound in Cheshire. They mostly occur near the banks of the river Weaver, and the small stream the Wheelock. The depth from the surface at which brine is found varies considerably. At Nantwich it is only 10 or 12 yards, whilst at Lawton it is 85 yards, at Winsford from 55 to 60 yards, and at Northwich, Witton, and Anderton, from 30 to 40 yards. The largest works in which salt is obtained from the brine are at Winsford, Anderton, and Northwich. The brine from the pits at Anderton contains about 27½ per cent. of salt.

The quantity of salt sent down the Weaver, by which river the Cheshire salt is principally conveyed to Liverpool, was, in the

Year	Rock.		White, or refined from the brine.	
1824	121,459	Tons	162,365	Tons
1825	89,550	„	252,876	„
1826	51,522	„	232,026	„
1827	45,829	„	271,535	„
1828	66,883	„	289,225	„
1829	82,830	„	321,462	„
1830	97,077	Tons	336,245	Tons
1831	90,742	„	301,679	„
1832	94,400	„	345,896	„
1833	95,706	„	383,669	„
1831	82,179	„	376,220	„
1835	61,505	„	298,543	„

And in 29 years, namely from 1803 to 1831, 2,155,296 tons rock, and 5,678,913 tons white salt.

There is a great variety of soil; but clay, sand, and black moor, or peat, predominate; the substratum of the low grounds is commonly clay or marl. There are few large woods, but most farms abound with hedge-rows, from which a considerable quantity of timber is produced, particularly oak. The soil and climate of Cheshire being peculiarly well adapted to the growth of grass, it is much more a pastoral than an arable county. The arable land is generally that which is thought too sandy for pasture. The dairy is the principal object of attention to the Cheshire farmer, and this county has long been noted for its cheese, large quantities of which are annually exported. The new red sandstone is the prevailing rock of the county. About Chester the old red sandstone occurs, and this same rock crops out in a very narrow band on the west side of the strip of the Lancashire coal-field, which runs into this county.

The Grand Junction Railway, which commences at Birmingham and joins the Liverpool and Manchester Railway at Newton, runs directly through this county. It enters Cheshire on the south near Betley, and passing a mile or two westward of the towns of Middlewich and Northwich, runs to Warrington, and thence out of the county to Newton; from Birmingham to Newton its whole length is 82½ miles: there is only one tunnel throughout the line. This railway was opened in 1837.

Cheshire is divided into seven hundreds, containing 487 parishes, one city, and 12 market-towns. It is likewise politically divided into north and south divisions, each of which sends two members to parliament.

The north division comprises—Hundreds: Macclesfield, Bucklow. The south division comprises Hundreds: Broxton, Eddisbury, Nantwich, Northwich, Wirral.

Chester, the county town, and the principal place in the southern division

of the county, is 143 miles north-west of London, on the river Dee, which surrounds it on every side except the north. Chester is a very ancient city, and is a county of itself. The form of the walls, and the disposition of the principal streets, together with the evidence of numerous antiquities discovered here, prove that Chester was an important Roman position, and the station of the twentieth legion. Numerous coins, inscribed stones and altars, &c., undoubted relics of the Romans, have from time to time been found here; but the most important discovery of Roman antiquities in this city was made in 1653, when a votive altar to Jupiter Tonans was dug up. Chester is still surrounded by walls nearly two miles in circuit, which contain four principal gates and two smaller ones. All the principal gates are of modern erection. The walls are of sufficient breadth to admit two or three, and in some places four or five, persons to walk abreast on them, and they are now used as a promenade by the inhabitants of the city. Except those of Carlisle, these walls are the only entire specimens of old city fortification in Great Britain. Four principal streets, branching from a centre, lead to the four gates. These streets have been excavated from a bed of rock, and are sunk several feet beneath the level of the ground: one story of the houses is thus underground at the back, and on a level with the street in front. There is a kind of covered portico running from house to house, on a level with the ground at the back, but one story above the level of the street in front: these porticoes are called the Rows, and beneath them are shops and warehouses. Chester castle stands within the walls, on the south-west side of the city. It was rebuilt in the time of William I. This castle is garrisoned by two companies of invalids. Barracks for 120 men occupy the north-east side of the castle-yard, and on the south-west side is an arsenal for 27,000 stand of arms. A great part of the castle has been taken down, and on its site a county gaol, a shire hall, and courts of justice, have been erected on a large and handsome scale. The cathedral is a spacious, irregular, and heavy building of red sandstone, the exterior of which is much decayed. A very small part of the original abbey remains: the present cathedral was chiefly erected in the reigns of Henry VI., VII., and VIII. The tower, which rises from four beautiful pillars, is 127 feet high. The south transept of the cathedral is used as one of the parish churches. There are also eight other churches, and numerous places of worship for different denominations of Christians. The Blue Coat hospital, founded in 1706, educates 165 boys, 35 of whom are maintained and clothed for four years, and then bound apprentices to some trade. There is likewise a similar institution for poor girls. In 1811 a school house was built by the Marquis of Westminster for the purpose of educating 400 boys and 400 girls, which is supported solely at his expense. The diocesan school established in 1812, has a school room capable of accommodating 400 boys. There are separate markets for fish, flesh, and poultry, which are held in three roofed buildings in Northgate-street, contiguous to each other; there are also open markets held twice a week, for the sale of cattle, crockery, &c. The infirmary is a handsome brick building, situated on the west side of the city; adjoining to it is the gaol and house of correction. The other public buildings are, 1. The Exchange, a handsome brick building completed in 1698. 2. The Union hall, a quadrangular brick structure enclosing an area: it is used for receiving Manchester and Yorkshire goods at the two annual fairs in July and October, which are the most considerable fairs in the northern part of the kingdom. 3. The commercial hall for the like purpose. 4. The linen hall, built in 1778 by the Irish merchants. Formerly a considerable trade was carried on in Irish linens; this trade has however disappeared, and the hall is at present used for the purposes of the cheese fairs which take place eight times in the year. 5. An engine-house. 6. A theatre. There are likewise two public libraries and a commercial news-room, which is a highly finished stone-fronted building, with Ionic pillars. The old bridge over the Dee is of very ancient date: it has seven arches, and some part of it is supposed to be as old as the Norman Conquest. A new bridge, consisting of a single arch, has been recently thrown over the Dee. The span of this bridge is 200 feet, being the largest stone arch ever built: the roadway is 33 feet wide, and the elevation from low water mark 54 feet. The river is navigable from Chester to the Irish Sea, but owing to

the shallowness of the port the foreign trade is of very little importance. The two branches of the canals already decribed give the city an extensive inland communication towards the south and east, and direct intercourse with Liverpool. The principal articles exported and shipped coastways are cheese, coal, lead, and copper. Chester likewise supplies many of the shopkeepers in North Wales with London, Manchester, and Birmingham goods. The manufactories of the town are inconsiderable: they consist of lead and shot, tobacco, snuff, and leather. This city is supplied with water from works on the river adjoining the mills; and it is well lighted with gas supplied by a company. Chester is represented in parliament by two members. It is likewise the election town for the south division of the county. Under the Municipal Corporation Act, Chester is divided into five wards, with ten aldermen and thirty councillors.

Tarporley, an inconsiderable market-town 10 miles E. S. E. of Chester, is on the high road from that city to London. About two miles south of Tarporley is the insulated sandstone rock of Beeston, 366 feet high: it is precipitous on three sides, but on the fourth slopes gently to the general level of the county. On its summit stand the stately ruins of what was once considered an impregnable fortress.

Nantwich *, 18 miles south-east of Chester, is a considerable trading and manufacturing town, situated in the fertile vale of the Weaver. This vale contains some of the finest dairy land in the county, and produces a considerable quantity of cheese. The town of Nantwich consists of several regular streets. The church is an ancient building in the form of a cross. The market-house is a neat modern building. There is a free school, and various almshouses. The chief business of Nantwich was formerly confined to the preparing of salt from the brine springs in its vicinity, and the excavation of the rock salt of the mines. The salt trade is now, however, on the decline, which is probably owing to the discovery of other salt springs at Middlewich and Northwich. Cheese is at present the principal article of trade at Nantwich. The manufacture of shoes is carried on to some extent in this town. The cotton manufacture has also been established here, and many of the inhabitants are employed in the making of gloves. Nantwich is a polling place for the south division of the county.

Congleton, a market-town and borough, 28 miles east of Chester, is situated in the beautiful valley of the river Dane. The general appearance of the town is neat and respectable. Besides the church, there are places of worship for dissenters. The guildhall is a convenient building with piazzas, situated in the old part of the town. There are several manufactories of cotton and leather, but the staple articles are silk and ribbons. The town is increasing rapidly in every direction. The impulse given to the trade of this place by the repeal of the duties on French silks caused an increase of 50 per cent. in the population, between 1821 and 1831; and although the trade received a shock in 1825, it is now in a flourishing state. The town is well lighted with gas. There is a grammar-school, an infant school, Sunday-schools, and several endowed charities. The Macclesfield canal passes near the town.

Middlewich, a market-town, 18 miles east of Chester, is situated near the confluence of the Dane and Wheelock. Besides the church, which is a spacious building, there are three other places of worship for dissenters. The chief trade of the town is in salt, which is obtained in considerable quantities from the brine springs in the neighbourhood. The cotton manufacture has likewise been introduced.

Northbwich is an ancient town 16 miles E. N. E. from Chester, near the confluence of the rivers Dane and Weaver. The streets are irregular, and badly paved. The church is a large building. The principal business of the inhabitants is connected with the salt works of this neighbourhood. Some persons are likewise engaged in the manufacture of cotton. Northwich is a polling place for the county.

Sandbach, 22½ miles east by south of Chester, is pleasantly situated on rising ground near the Wheelock, which falls into the Dane about seven miles below the town. It was formerly famous for its ale, but the trade in that article has declined. The worsted yarn manufacture once flourished here, but it has given way to the silk manufacture, which now furnishes employment to the inhabitants. In the neighbourhood are

* Naut signifies a vale, and Wyche a place where salt is made.

some brine springs. There is a large old church. The Grand Trunk canal passes at some little distance from the town. Sandbach is a polling place for the county.

Malpas, a market town 13 miles south by east of Chester, stands on an eminence on the east side of the valley of the Dee. It once contained a religious house for monks of the Cluniac order. The present church is the chapel which belonged to that establishment: it is built of unhewn stone, and consists of a nave and chancel without either aisle or steeple. Some of its decorations are supposed to be of Saxon origin. Besides several meeting houses for dissenters, the parish contains two chapels of ease. The town has an endowed grammar-school, and several charitable institutions. Malpas, according to some authorities, is the birth place of Matthew Henry, the commentator on the bible.

Frodsham, 10 miles north-east of Chester, is situated near the confluence of the Mersey and Weaver. This town consists principally of two streets, intersecting each other; at the extremity of one of which is the church. The cotton manufactures and salt refining form the principal business of the town. Frodsham is one of the polling places for the county.

Neston, 10 miles north-west of Chester, near the mouth of the river Dee, is well built, and contains many good modern houses, and a large handsome church.

About a mile from the town, on the north-west, is Parkgate, which has become a bathing place of some resort. The houses of Parkgate are mostly disposed in one range along the north bank of the Dee: they are in general neat modern brick buildings.

Birkenhead, 15 miles north by west of Chester, on the æstuary of the Mersey, nearly opposite Liverpool, has a ferry to that town, and has of late years become a populous place. In 1831 it contained 2,599 inhabitants; but since that time it has very much increased. It is a chapelry in the parish of Bidstone, and is one of the polling places for the county.

Poulton-cum-Seacomb is likewise on the æstuary of the Mersey, and exactly opposite to Liverpool, to which town it also has a ferry; it is a township in the parish of Wallasey, and in 1831 contained 1,212 inhabitants.

New Brighton is a bathing place, recently established at the north-eastern extremity of the peninsula of Wirral, and at the mouth of the æstuary of the Mersey, in a sandy and sterile tract: it is much frequented for the advantage of sea-bathing and pure air. About two miles south of New Brighton is Bidstone lighthouse, situated on the high ground which occupies this part of the peninsula. There is constant communication by steam-boats between Liverpool and all these places.

Runcorn, on the Mersey, 11½ miles N. N. E. of Chester, has become a populous place, in consequence of the canals and large quarries in the neighbourhood, the latter of which supply stone for the docks and other public works at Liverpool.

Macclesfield, one of the principal towns in the northern division of the county, 33 miles east by north of Chester, stands partly on the slope of a steep hill on the river Bollin, and extends nearly a mile and a half in length. It consists of four principal streets, and several smaller ones. There are an old church, a chapel of ease, and six meeting houses for dissenters. The free grammar-school was endowed by Edward VI.: it has a revenue of £1300 per annum, and four exhibitions of £50 each for Oxford and Cambridge; a commercial school is connected with it. There are also two Sunday-schools; and many others of various descriptions. The town-hall is a good building, designed by Goodwin. The subscription library, founded in 1770, contains nearly 20,000 volumes. The court-house and gaol for the hundred are situated in the market-place. The manufactures of Macclesfield are very considerable. They principally consist of cotton and silk, both spun and woven. Excellent bandana handkerchiefs are manufactured, and to a considerable amount. Macclesfield and its neighbourhood, comprising the whole hundred bearing that name, is the principal manufacturing district in Cheshire. Upwards of 6000 men above twenty years of age are employed in manufacturing cotton and calico, nearly 1000 in silk, and about 5500 in cotton and silk promiscuously. Coal is abundant in the neighbourhood. On the east side of the town is a large common, in which there are various springs which produce an ample supply of water for the inhabitants. Great part of this common is now enclosed;

The town is well lighted with gas. Macclesfield is a paliamentary borough, and sends two members to the house of Commons. It is likewise a polling place for the county.

Stockport is an ancient borough and large market-town, 35 miles north-east of Chester, at the confluence of the rivers Mersey and Tame. Part of it stands on the north-west bank of the Mersey, in Lancashire, and is connected with the main portion in Cheshire by two bridges. The ground on which the town is built is very irregular. The parish church and market-place are in the centre part, on the summit of the hill, which is a level of considerable extent. The descent towards the Mersey on the north is very abrupt, but on the other sides the hill is of easy access. From the market-place the streets branch off on all sides. The streets are very irregular, and some of them are so steep that it is with difficulty that loaded carts can be driven down them. A new building was erected for the Stockport free grammar-school in 1832: the school room is 60 feet long by 30 wide. This endowment gives a free education to 150 pupils. This town contains two parish churches and several meeting-houses. Among the public buildings and institutions are a free-school, several Sunday-schools, and a large school built by subscription in 1805. A dispensary, erected in 1797, is on a very extensive scale. A new infirmary is now in progress. The population of Stockport and its vicinity are chiefly employed in the various branches of the cotton manufacture, for which there are numerous mills and very extensive factories in and near the town. The making of hats likewise employs a considerable number of persons. There are also several silk mills in full activity. The rivers Tame and Mersey, which form a junction in the town, afford an ample supply of water to numerous mills. A branch canal connects Stockport with the Manchester and Ashton canal, which adds greatly to the facilities for trade. The more ancient part of Stockport is supplied with water from open springs in Barnsfields, which are above the level of the market place. The water is collected in a reservoir, and thence distributed in pipes over the town. In the neighbourhood is a mineral spring. Stockport is now a parliamentary borough, and sends two members to the house of Commons. It is likewise a polling place for the county.

Knutsford is a neat town, 23 miles east by north of Chester. It contains some good houses, and the church is a handsome modern structure. The town is divided into Higher and Lower Knutsford by a small stream, an affluent of the Bollin. The county gaol, which is a spacious new building, a handsome town-hall, and the market-place, are situated in Lower, or Nether Knutsford. The dissenters have three meeting houses and two charity-schools. The inhabitants are principally employed in the manufacture of cotton, shag, velvet, and thread. Knutsford is the election town for the north division, and a polling place for the county.

Altrincham, 26½ miles north-east of Chester, near the canal from Runcorn to Manchester, has several manufactories of yarn, worsted, and cotton. It is a neat and clean town, with a chapel of the established church, and three dissenting meeting houses. The neighbourhood supplies the town of Manchester with fruit and vegetables.

Several Roman roads may be traced in this county, and there is abundant proof that the Romans had other stations in Cheshire besides that at Chester. The old Watling-street, supposed to be of British origin, enters from the north by the ford over the Mersey at Stratford, and passes south-west of Bucklow-hill, where a Roman road seems to have branched off towards Kinderton; the Watling-street continues by Northwich, over Delamere Forest, and by Chester to the coast of Caernarvonshire.

There are some few traces of ancient castles in this county besides those of Chester and Beeston. Cheshire also contains numerous ancient mansion houses, and country residences.

Population of the city and market-towns of Cheshire.

Chester City	21,363
Great Neston (T)	1,638
Frodsham (P)	5,547
Northwich (T)	1,481
Altrincham (C)	2,708
Knutsford (P)	3,599
*Stockport (T)	25,469
Macclesfield (T)	23,129
Congleton (C)	9,352
Middlewich (P)	4,785

* The whole parish 66,610.

*Sandbach (T)	3,710
Nantwich (P)	5,357
Malpas (P)..........	5,565
Tarporley (P)........	2,391

Authorities.

Ormerod's History of Cheshire.

Wedge's General View of the Agriculture of Cheshire.

History of Nantwich.

LANCASHIRE.

Lancashire is a maritime county, bounded on the south by the river Mersey, which separates it from Cheshire, on the east by Yorkshire, on the north by Westmoreland and Cumberland, and on the west by the Irish sea. It is of a very irregular figure, and very narrow towards the north. On the north-west there is a large district called Furness, entirely detached, and situated between Cumberland and Westmoreland. The greatest length of the county, (not including Furness,) from north to south, is 60 miles: its greatest breadth, from east to west, is 43 miles, and its least breadth is 9 miles. The area is 1831 square miles. The greatest length of Furness from north to south is 23 miles, and from east to west 14 miles. At its extreme point on the south-west is the narrow island of Walney, 10 miles in length, and scarcely one in breadth; on the south-east point of this island there is a light-house. Walney also contains two or three small villages, and a chapel. Between Walney and the main land there are three other small islands, Barrow Island, Foulney Island, and Pile Island, on which last are the ruins of the Pile of Fouldry, an ancient religious house. The coast of Lancashire is indented by several bays and æstuaries. Morecambe Bay is formed by the main part of Lancashire on the north-east, by Furness on the north-west, and is bounded at its northern extremity by a small part of Westmoreland, which contains the æstuary of the Kent. The bay of Morecambe is very shallow, and can be crossed at low water between Hest Bank, on the east coast of More-cambe Bay, and Kircott End in Furness. Lancaster Bay, which may be considered as included in Morecambe Bay, is formed by a deep receding of the coast, which receives the æstuaries of the Lune and the Wyre. From Rossall Point, the extreme south-western limit of Lancaster Bay, the coast runs very nearly due south to the æstuary of the Ribble, and thence is continued in a rounded almost unbroken line to the æstuary of the Mersey. From the æstuary of the Kent to that of the Mersey the coast is low and sandy, except for a few miles between the Wyre and the Ribble, in the neighbourhood of Blackpool, where clay cliffs occur.

The surface of the county in the southern and western parts is flat; the northern and eastern parts are occupied by offsets from the mountains which run from Derbyshire northward into Yorkshire. This high land is not of so great elevation as the mountains of Cumberland, but it occupies a greater breadth, and forms high and extensive moorlands. Several mountain ridges occur between Rochdale and Clitheroe; and the whole of the county east of a line joining these two towns may be considered as part of the Penine chain. A little to the north-west of Clitheroe, Longridge Fell extends from the boundary of the county to near Hathersall, on the Ribble; parallel to this ridge, and more to the north, is Bleasdale Moor, a range of high land including Calder Fell and other bleak mountain tracts. Another ridge runs nearly due west from Wolf Fell Crag on the borders of Yorkshire almost as far as Lancaster. The extreme north-east point of the county is occupied by Graygarth Moor, which is part of the mountain range of Yorkshire. There are also some tracts of high land a little to the east of Chorley, distinguished as High Moor, Rumble Moor, Turton Moor, &c.; Rivington Pike, 4 miles south-east of Chorley, is above 1500 feet high. To the south of Haslingden, there is Holcome Moor. The high lands run south-west from Chorley towards Wigan; from Wigan they run westward as far as Ormskirk, and south-westward past Billinge Beacon (630 feet) to the neighbourhood of Liverpool, where they terminate in the heights which overlook that town. A broad belt of level land runs along the coast; extending from the mouth of the Kent along Morecambe Bay to the mouth of the Lune, and continuing to the mouth of the Wyre. Between the mouth of the Wyre and that of the Ribble, the Fylde country,

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* The whole parish 7,214.

as it is termed, forms an extensive tract between the road from Preston to Lancaster and the sea: this tract, which is in general level, or slightly undulating, contains extensive peat mosses. From the Ribble to the mouth of the Mersey the country is also one uniform level, stretching inland for several miles to the foot of the highlands, which in the neighbourhood of Liverpool approach close to the æstuary of the Mersey. The valley of the Mersey occupies the southern part of the county.

The detached district of Furness in the north part of the county is an integral part of the mountains of Cumberland. The high land of Furness gradually subsides as it approaches the coast on the south, which has no cliffs, and in some parts is occupied by bogs, or, as they are termed in the county, "mosses." Walney island has the same character as the southern part of Furness; it lies on a bed of moss or peat, in which large trees have been dug up, and it is so low as to be at times nearly inundated by the tide.

The principal mountain in Furness is the "Old Man" in Coniston Fells, which rises 2577 feet above sea level: another peak near it is of the same height. In the main portion of Lancashire, Pendle Hill, near Clitheroe, is 1803 feet high; Bleasdale Forest, on the east border, near Garstang, 1709; Boulworth Hill, on the east border, near Burnley, 1689; and Rivington Pike, already mentioned, 1545 feet.

The principal rivers are the Mersey, the Irwell, the Ribble, the Wyre, and the Lune.

The Mersey has its origin in a number of small streams near the junction of Derbyshire, Cheshire, and Yorkshire; for a short distance it forms the north-eastern limit of Cheshire, under the name of the Etherow; it is then joined by the Goyt, and flows to Stockport, where the Thame falls into it. The united stream takes the name of the Mersey, which forms the southern boundary of this county, and after receiving several tributary streams falls by a wide æstuary into the Irish sea. It has been made navigable as far as the Irwell, which river has its source in the Moors, near the Yorkshire border, about the parallel of Haslingden; it then flows to Bury, a little below which it receives the Roch and turns westward, after which, meeting with a stream coming from Bolton, it bends its course south-east, and continues to Manchester: it is there joined by the Irk and the Medlock, flows westward through Barton, and joins the Mersey below Flixton. The Roch rises in the hills called Blackstone Edge, which run on the borders of the county east of Rochdale, passes Rochdale and joins the Irwell near Radcliff. The Medlock rises in Yorkshire: the Irk is formed by the union of some small streams near Oldham and Royton.

The Douglas has its source in the vicinity of Rivington Pike, five miles north-west of Bolton, takes a south course to Wigan, and thence turning to the north-west, empties itself into the æstuary of the Ribble. It has been made navigable from Wigan. The Darwen springs from among the hills about Darwen, runs a little to the south of Blackburn, thence flows to the west, and joins the Ribble at Walton-le-dale. The Ribble rises in the West Riding of Yorkshire, and forms for a short distance the boundary line between the two counties. Receiving from the north-west the Hodder, and from the east the Calder, it pursues a south-west course, through a rich vale by Ribchester, to Walton near Preston. Immediately below Penwortham it widens into a shallow and broad æstuary, which, though it makes a great gap in the line of coast, is not navigable for ships of any great burthen; it has been made navigable as far as Preston for small vessels. The Ribble is generally an inconsiderable river, but during heavy rains it brings down a vast body of water with great impetuosity. The Calder rises among the Moors on the borders of the county near Colne, and flowing westward joins the Ribble near Whalley. The Wyre rises among the heights on the boundary of the county, near the Trough of Bolland, runs in a west direction to Wyersdale, eight miles N.N.E. of Garstang, then passes Garstang in a south-west course, and flows near Poulton, widening into an æstuary, which from Poulton turns to the north-west, and enters the sea near Rossall Point. The Lune has its source in the high lands of Westmoreland, passes by Kirkby Lonsdale, and takes a south-west direction to Lancaster, where it opens into a wide æstuary, which joins the sea in Lancaster Bay. There are no rivers of importance in Furness. The Winster, which rises in Westmoreland, separates

Furness from that county, and empties itself into the æstuary of the Kent. The Duddon, which divides Furness from Cumberland, forms a considerable æstuary. Winandermere, the largest of the lakes of Westmoreland and Cumberland, lies between Furness and Westmoreland, but is entirely included in Westmoreland. The river Leven, which flows from this lake, falls into Morecambe Bay by an æstuary, which divides the southern part of Furness into two portions. Coniston-water, to the west of Winandermere, is about half the size of the latter lake, and entirely included in Furness. Its outlet is the river Guke, which flows into the æstuary of the Leven. The small lake of Easthwaite, which lies between Coniston-water and Winandermere, discharges its waters into the latter lake. The direction of all these lakes from north to south, and also of the streams which drain Furness, indicates the general direction of the valleys, and of the high lands of this district. Salmon is found in nearly all the large rivers of this county. So early as the time of Richard II., an Act was passed for regulating the Lancashire fisheries, and they have been a subject of legislation to the present time.

Inland navigation, and other means of rapid communication, have been very extensively prosecuted in this county. Little more than a century ago, even the rivers were useless for the transit of goods; at present, there are numerous canals which form connecting links not only between the towns of the county, but with every part of England. In 1720, an Act was first passed, and amended in 1794, for making the Mersey and Irwell navigation between Liverpool and Manchester; by means of straight cuttings, locks, and weirs, vessels of fifty tons burden were enabled to navigate these rivers, through their junction, to the two towns, being about a course of fifty miles. The Sankey canal, which was made in 1762, is the first canal in this country that was cut entirely through an artificial channel. This canal commences in the Mersey at its confluence with the Sankey brook, and thence runs in a curved line of 12 miles to St. Helens. The Duke of Bridgewater's canal, the conception and execution of which have perpetuated the genius of Brindley, was begun in 1771, and was originally intended only to connect the extensive coal-mines belonging to the duke at Worsley with Manchester, by a cut five miles in length. The main canal extends from this cut, from Longford bridge, about three miles and a quarter from Manchester to Preston in Cheshire, where it joins the Grand Trunk canal, after a course of 18½ miles on the south bank of the Mersey; the canal then proceeds to Runcorn, a farther distance of five miles and a quarter. The part of the canal between Preston and Runcorn is now considered part of the Grand Trunk canal. From Worsley, two arms branch out, the one to Leigh, which has now been extended to Wigan, and the other, which is only one mile and a half in length, to Chatmoss. Canals and tunnels in every direction pierce the vast coal beds of Worsley, and their aggregate length is said to be 18 miles. The Duke's canal passes over several roads on arches; and at Barton, about three miles and a half from the reservoir at Worsley, it crosses the Irwell by an aqueduct bridge, 200 yards in length, 12 yards in width, and 13 yards above the level of the river. This canal is one level through its whole extent. With the exception of the branch to Leigh, the whole was completed in five years. There is thus communication between Liverpool and Manchester by two lines of inland navigation. From the Irwell at Manchester, the Bolton and Bury canal runs in a N. W. direction to Bolton, a distance of 11 miles. Four miles before reaching Bolton, a branch four miles long goes off to Bury: this branch passes over the Irwell twice and the Roch once, by aqueducts. The Leeds and Liverpool canal commences at Liverpool in a basin, the waters of which are 52 feet above the lowest tides of the Mersey. It first takes a north direction by a very winding course, as far as Scarisbrick hall, where it turns to the east, and reaches Wigan; from Wigan, again turning to the north, it passes Chorley; thence bending to the north-east it passes Blackburn, Burnley, and Colne, near which last town, at Foulridge, it passes through a tunnel 1550 yards in length, six yards broad, and five yards and three quarters high; and then enters Yorkshire. From Liverpool this canal runs on one level through the low flats that border this part of the Lancashire coast, till it approaches Wigan, where it enters the hilly country, within which all the rest of its course is comprised. The summit

level is at Foulridge; thence to Burnley, a distance of eight miles, is a lockage of 70 feet. From Burnley to Blackburn, the canal is on a level. From Blackburn there are six locks for a fall of 54 feet, to a place called Grimshaw park; thence passing over the Darwen by an aqueduct, and over Roddlesworth water by another aqueduct, it proceeds to near Chorley, and thence to Cophurst valley, where it locks down 64½ feet by seven locks into the head level of the Lancaster canal, at Johnson's Hillock. At this part of the canal there is a distance of 11 miles which is common to both this and the Lancaster canal, but is considered as part of the latter. These 11 miles are on one level; the Leeds and Liverpool canal again commences near Kirklees, at the head of a range of 23 locks, which brings the canal down 214½ feet from the level of the Lancaster canal to the basin at Wigan. From this basin to Newburgh there is a fall of 30 feet: the remaining 28 miles to Liverpool are upon the same level. The Lancaster canal commences at Bark Hill near Wigan, and communicates with, and for 11 miles forms a part of the Leeds and Liverpool canal, as already described; from Bark Hill it proceeds almost due north to Thorpe Green, a distance of 13½ miles. The canal is here interrupted for about four miles and a half; but a railroad crossing the Ribble and ascending the high ground, connects this part of the line with the continuation commencing at Preston, whence the canal proceeds in a north direction, past Garstang, to Lancaster; near Lancaster it crosses the river Lune by a fine stone aqueduct; it thence proceeds to Burton, enters Westmoreland, and terminates at Kendal. It is nearly 76 miles in length. From Preston to Tewit Field, a distance of 40 miles, it is all on one level. The Rochdale canal commences in the Duke of Bridgewater's canal at Manchester, and runs to Sowerby bridge near Halifax in Yorkshire. This canal passes a small distance to the east of Rochdale, to which town there is a short branch. This canal is 31½ miles in length; it was begun in 1794, and finished in 1802.

The Ashton canal begins in the Rochdale canal, near Manchester, and runs to Fairfield, and thence to Ashton. From Fairfield a branch towards the north leads to New Mill, near Oldham, and another connects it with the Huddersfield canal in Yorkshire, of which it is in fact a continuation. From Clayton between Manchester and Ashton, a branch of this canal runs to Stockport. In the town and suburbs of Manchester, there are several collateral cuts and basins connected with various wharfs, quays, and manufactories. This canal is 31 feet wide at top, 15 at bottom, and 5 feet deep.

The railroad between Manchester and Liverpool was completed in 1830. It runs in nearly a direct and level line between these two great towns, a distance of 31 miles. To obtain a road with so little inclination and curvature, many difficulties were to be overcome. Two tunnels were cut, six excavations made, and 63 bridges constructed over and under roads, rivers, and canals. The tunnels at Liverpool were cut in the sandstone rock, and altogether more than 3,000,000 of cubic yards of stone, clay, and soil have been excavated throughout the line. Twenty-two of the bridges are of brick, 17 of wood and stone, 11 of brick and stone, 11 of wood, and 2 of stone and wood. The railway passes under 30 of the bridges, over the common road on 28, and on 5 it is conducted over the waters of the river Irwell, of canals, &c. The greatest obstacle was supposed to be the crossing of Chatmoss, but this has been successfully accomplished, and for four miles in length the moss has been drained and levelled in the centre, and embanked at each end. The excavation in the sandstone at Olive Mount, near Liverpool, is about 79 feet deep in the deepest part.

The road is a double railway, on which locomotive carriages are used for the conveyance of passengers and goods; the time employed in passing from one place to the other, is about an hour and 20 minutes for passengers and sometimes less. The time for heavy goods is about two hours. A railway from Bolton, communicating with the canal there, proceeds in a S. W. direction to Leigh, where it communicates with the canal at that place, which connects the Duke of Bridgewater's canal with the Leeds and Liverpool canal. Here it was intended the railway should terminate, but it has since been extended, and forms a branch to the Liverpool and Manchester railway. It is about nine miles in length, and goes through a district containing extensive collieries:

this railroad very much facilitates the transport of coal and other commodities to the port of Liverpool.

The Warrington and Newton railway is another branch of the Liverpool and Manchester line. It proceeds in a course directly north from Warrington to the Liverpool and Manchester railway at Newton, a distance of about four miles and a quarter. It now forms part of the Grand Junction railway, the great line which connects Birmingham with Liverpool. Another railway connected with the Liverpool and Manchester line proceeds from near Newton, north to Wigan, and there is a continuation from Wigan to Preston: the whole of this line is about 24 miles. Communicating with this railroad there is another from Preston, passing by Kirkham and Poulton to the Wyre Harbour; this railway is 19½ miles long. Another railroad from St. Helen's to Runcorn Gap is about 12 miles long, and has two or three small branches. In 1837 an Act was passed for a railway between Bolton and Preston, a distance of 20 miles; and for another between Lancaster and Preston, the length of which is to be little more than 20 miles; it is now in progress of construction. A railway from Manchester to Leeds is now also under construction. A railway from Manchester direct to Bolton has also lately been completed. A railroad is in progress between Manchester and Sheffield, and another from Manchester to Stockport.

The whole of the south part of the county, extending as far as Preston, and also to the west of Preston, is nearly occupied by the new red sandstone formation, which in part overlies the extensive coal-field of Lancashire, and which is the substratum of the peat mosses of the S. W. district. The millstone grit forms the heights which skirt the eastern side of the county as well as those which separate the basins of the various rivers of this division of the county. That part of the county north of the line above described is principally occupied by the carboniferous or mountain limestone. The whole of the north of Furness is occupied by the greywacke slate of the Cumbrian mountains; at the southern point, including Dalton, the mountain limestone occurs.

The most important mineral product of Lancashire is coal, which occurs abundantly in the south and south-west. This coal-field, the boundary of which is very irregular, extends on the south from a little east of Liverpool, along the line of the Liverpool and Manchester railway, to Ashton-under-Line, a distance of about 35 miles; it covers an immense area to the north as far as Colne, Blackburn, Wigan, and the neighbourhood of Ormskirk on the west, forming an area somewhat in the shape of a crescent, having Manchester nearly in the centre. The chord or span between the opposite points is about 40 miles. From Ashton-under-Line, a long narrow strip runs southward into Cheshire, which is described in the account of Cheshire. This immense coal-field includes nearly all the manufacturing district of Lancashire; it seems to be prolonged west of Ormskirk, and probably is continued beneath the sea. The depth of the mines in different parts of this great coal-field differs considerably, but it may generally be stated to vary from 120 to 170 fathoms.

A small coal-field occurs in the north part of the county near Quernmoor, a village to the east of Lancaster; it is about eight miles long and six broad, but it is little worked, and is of no importance. At Haigh, near Wigan, there is abundance of that kind of coal called cannel coal. It looks almost like pure bitumen, is highly inflammable, and splits with a fine polished surface; when stirred it burns rapidly. There are numerous coal-pits throughout the manufacturing districts. Excellent freestone is quarried near Lancaster, of which this town is built: the stone admits of a fine polish. Limestone occurs very abundantly. The principal bed of limestone for working is near Silverdale, to the north of Lancaster. In the north of Furness, particularly near Hawkshead, numerous quarries of blue slate are wrought. Copper occurs in Coniston Fells. Mines of this metal are profitably worked in the "Old Man" mountain, where the ore is found tolerably rich and in great abundance. It is here what is called "dressed," that is to say, the metal is separated, as far as possible, from extraneous matter by various processes, and it is then sent to North Wales for smelting. Ironstone is found in the lower part of Furness, between Ulverstone and Dalton. Near Chorley there is a lead mine, in which carbonate of barytes is found with the lead ore.

Coarse slate and flag-stones are ob-

tained near Wigan, and scythe-stones, and brick and pipe-clay in various places.

The climate of Lancashire is temperate, but in general extremely humid, especially on the western side. The winter in all the parts near the coast, is less severe, and the summer less hot than in the more inland counties. The soil varies considerably, and on the whole the county cannot be called naturally fertile. On the higher lands the ground is in general barren, the subsoil being frequently rock. In the low tract which borders the coast between the Mersey and the Ribble, the soil is in many parts a light sandy loam, which is capable of being made very productive. In this tract great quantities of potatoes are raised, and also good crops of wheat.

In the low tract, between the Ribble and the Lune, there is a greater proportion of clayey soil, which is stronger and better adapted to grain. This tract, which is known by the general designation of the Fylde, has an undulating irregular surface, which never rises to any great elevation, and, like the low tract between the Mersey and the Ribble, contains extensive peat bogs. These bogs, which cover a large surface in this county, are provincially called mosses: they are immense masses of vegetable matter, mostly of a spongy or of a semifluid consistency, and in their natural state, unavailable both for pasturage or tillage. Chatmoss, one of the principal of these bogs, comprises an area of about 12 square miles. It consisted of a mass of vegetable pulpy matter, varying in depth from 10 to 35 feet on a bottom of clay or sand; the whole was estimated at a moderate calculation to contain 60,000,000 tons of vegetable matter. It was till within the last few years considered an irreclaimable bog, but by skill and perseverance it has been made to yield a rich return for the capital laid out on reclaiming it. Since the construction of the Manchester and Liverpool railroad, which passes over this moss, it has been partially drained and cultivated, and a ready market is found for its produce in the surrounding populous towns.

Lancashire is not in general a well-wooded county, though a considerable quantity of timber is grown in the hedge rows. It is with great difficulty that trees of any kind can be reared near the sea, in consequence of the violence of the western winds. The alder is now largely planted, and osiers are likewise found to be profitable.

The principal crops are oats, wheat, barley, turnips, and especially potatoes, for the cultivation of which Lancashire was early noted, being the first English county in which this root was grown to any extent.

The high lands, and a great part of the level lands along the coast, and on the banks of the rivers, especially the Mersey, are used as pasture grounds. A large quantity of cheese is made in this county, particularly in the southern and western parts; it is often sold under the name of Cheshire cheese.

Lancashire was created a county palatine by Edward III. It is divided into six hundreds, containing 452 parishes, in which there are 27 market towns. It is likewise politically divided into north and south divisions, each of which sends two members to parliament.

The northern division comprises—Hundreds: Amounderness, Blackburn, Leyland, Lonsdale. The southern division comprises—Hundreds: Salford, West Derby.

Lancaster, though now far from being the most important, is the county town. It is represented in parliament by two members, and is the chief place in the north division of the county, and the place of election for that division. It is 182 miles N. W. of London, on the south bank of the river Lune.

This place is supposed to have been a Roman station: many antiquities have been discovered here, and its termination, *caster*, likewise confirms its Roman origin. Camden asserts that it is the Longovicus of the Notitia, while others suppose it to be the Ad Alaunam of Richard of Cirencester. It is conjectured that the Picts dismantled it after the departure of the Romans, and that the Anglo Saxons afterwards restored it, under whom the town gave the name to the shire. It received a charter from King John, and had additional privileges granted to it in the reign of Edward III., when the castle was enlarged.

It stands on a gentle slope, many of the streets rising from the river towards the south. On the summit of the hill, on the western side, are the castle and the church. Nearly the whole town is built of freestone from quarries in the neighbourhood; most of the houses are well built, and some of them are large

and handsome. They are covered with slate obtained from Furness. Many of the streets are narrow; a few of them are well paved. The principal public building is the castle; which was once a magnificent structure, mostly built in the reign of Edward III., but the keep is supposed to be of Saxon origin. Within the walls an area is included of 380 feet from east to west, and 350 from north to south. The walls of the keep are of great thickness, and the apartments are very large, one being nearly 63 feet long. At present the whole of this castle is appropriated as a county gaol.

Close to the castle is the parish church, a spacious structure, rebuilt in 1759. There are also two chapels of ease, and places of worship for five different denominations of Christians.

Among the other public buildings are 1st. The town-hall, a large convenient building in the centre of the town, ornamented with a portico. 2d. The custom house, which is small, has a portico supported by four Ionic columns. 3d. Assembly rooms. 4th. A theatre. There are a free school, charity schools, and Sunday schools, a dispensary, almshouses, and other benevolent institutions. A handsome modern bridge of five elliptical arches, crosses the Lune, near which there is an extensive quay with large warehouses.

Before Liverpool reached its present commercial importance, the trade of Lancaster was much larger than it is at present. A few years ago it traded very largely to America and the West Indies. It appears, from the Custom House entries, that in the year 1799, 52 vessels sailed from this port to the West Indies, having cargoes estimated at two and a half millions sterling, but at present the whole of the West India business has left it, and what remains of the other branches of its trade affords but a scanty employment for a few sloops. The communication with the sea is greatly obstructed by shoals in the river, which prevent vessels of greater burden than 250 tons from approaching the town. Those of larger bulk unload at Glasson dock, five miles below, and send their cargoes by smaller craft. The manufactures of this town are not very considerable: they chiefly consist of cabinet work, spinning of twine, cotton spinning, and weaving of sail-cloth. On the whole, the appearance and condition of Lancaster are that of a decaying town. The council of the borough consists, under the municipal Reform Act, of six aldermen and 18 councillors. The assizes for the northern division of the county are held in this town. A little to the west of the town, on the other side of the Lune, is an excellent salt marsh, containing about 500 acres.

Preston, 20 miles south of Lancaster, stands on a gentle elevation on the north bank of the Ribble, about 11 miles from its entrance into the Irish sea. The appearance of the town denotes increasing trade and opulence: the streets are well paved, the dwelling houses well-built and handsome, the drainage excellent, and good roads lead from the town in all directions. It is only within the last 40 years that Preston has risen to its present importance. For a century previous to 1790, the population of the place had been nearly stationary, being about 6000 persons: in 1831 it contained more than 33,000 inhabitants, and the population in 1836 was estimated at 40,000. In the year 1791, a small manufacture of muslin was introduced, and since that time cotton factories have been gradually established on a large scale, and cotton spinning now forms the chief business of the town. Five or six large factories are engaged in spinning flax. There are no public buildings worth notice. Besides churches, there are two large Roman Catholic chapels, and meeting houses for four different sects of dissenters. The House of Correction, situated on the north-east of the town, was built and is arranged on the plan of Howard. The town has been lighted by gas since the year 1815. The river is here crossed by three bridges, one near the town, one on the west, the direct road to Liverpool, and the other on the east, on the road to Chorley. There is a free grammar school, a free school called Broughton school, in which from 90 to 100 scholars are taught, and two or three other charity schools. Preston is an ancient borough, represented in parliament by two members. It is likewise a polling place for the county. This town was the birth-place of Arkwright.

The Lancaster canal enters the north-west side of the town.

Blackburn, a market-town, 25 miles south-east by south of Lancaster, principally consists of one long street, with smaller streets intersecting it. The town

is irregularly built. It contains two churches and seven meeting houses for dissenters, a free grammar school, a charity school for girls, two schools on the respective plans of Lancaster and Bell, and several Sunday-schools. The manufacture of cotton is very extensively carried on, and forms the chief business of the place. The annual amount of manufactured goods is estimated at two millions and a half sterling. The Leeds and Liverpool canal passes on the south of the town; and a small rivulet called the Blackbourne or Blackwater river, which joins the Darwen, flows through it. Blackburn was made a parliamentary borough by the Reform Act, and sends two members to parliament.

Clitheroe, a market and corporate town, 21 miles south-east by east of Lancaster, is an ancient parliamentary borough, and till the Reform Act sent two members to parliament: the number is now reduced to one, and the limits of the parliamentary borough have been much extended. The town stands about half a mile from the east bank of the Ribble, which here separates Yorkshire from Lancashire. Between two and three miles east of it is the Pendle hill. Clitheroe is small, and has a poor appearance; there are very few houses that indicate either opulence or comfort, but new houses are now springing up in every direction. There are one or two cotton factories. A castle stands on the south of the town on an elevated limestone rock; the remains consist of a square tower surrounded at some distance by a wall. The town has a free grammar school.

Colne is situated on the river Calder, 29 miles east-south-east of Lancaster. Its principal business is the manufacture of cotton goods. The church is of ancient origin, but the present building appears to have been erected in the reign of Henry VII; there are two meeting-houses, and two partially endowed schools.

Burnley, a market-town, 29 miles south-east of Lancaster, also has considerable cotton factories. A church existed here in the time of Henry I., but the oldest part of the present edifice was built in the reign of Edward III., and some part in the reign of Henry VIII. There is a free grammar school. The small river Burn, which falls into the Calder, passes near the town. On both these rivers there are several fulling-mills, corn-mills, and mills for grinding dye-woods. In the vicinity there is a lead mine; coal and slate of good quality are also obtained here. The Liverpool and Leeds canal passes through the town. Burnley is one of the polling places for the county.

Haslingden is a market-town, 30 miles south-east by south of Lancaster, on the road from Bury to Blackburn. The older part of the town is on the declivity of a hill. During the present century, the town has been much enlarged by buildings erected at the base of the hill. Most of the houses are built of stone. Besides a neat church there are two chapels for dissenters. There is a small endowed school. Cotton spinning now forms the principal business of the town. The woollen manufacture, which was formerly the staple of the town, is still carried on to some extent.

Chorley is situated 28 miles south by east of Lancaster, near the source of the Chor, a small stream which joins the Yarrow, and gives its name to the place. Chorley is a tolerably well built town, and has an ancient church. There are also a handsome new church, several dissenting chapels, a grammar school very slenderly endowed, a large national school, infant schools, and a Catholic day school, which affords free instruction to nearly 1000 children. The cotton manufacture is carried on here very extensively. Abundance of coal, lead, iron ore, flag and mill stones are found in the vicinity. Between 1801 and 1831, the population has more than doubled. Seventy years back the town consisted of one irregular street, with a shop built across it; now the streets amount to 67, with a market square. The town is lighted with gas. The Leeds and Liverpool canal passes within a mile from the town.

Kirkham, a market town, 19 miles south by west of Lancaster, situated a few miles from the north bank of the Ribble, is a small but improving place. The chief manufacture of the town is cotton; sail-cloth and cordage are made here to some extent, and coarse linens are also manufactured. The Lancaster canal and the Wyre and Preston railway pass a short distance to the east of the town. There is a free grammar school well endowed,* and eight other charity schools. The church is large, but not otherwise worth notice.

Poulton, 16 miles south-west of Lancaster, is situated near the west

bank of the river Wyre, which here forms a spacious æstuary. The town has no trade of any kind, but may possibly derive some advantage from the railroad from Preston to the mouth of the Wyre, which passes close to it. There are four free schools in the parish of Poulton. This town is one of the polling places for the county.

Blackpool, three miles south-west of Poulton, extends about a mile along the shore, in front of a very fine sandy beach. It is much frequented for sea bathing, and contains a considerable number of convenient hotels and well-built houses.

Garstang, on the river Wyre, 10 miles south of Lancaster, and on the road from this town to Preston, is a very mean irregularly built town. There is a grammar school with a small endowment, and an endowed school for Catholics. There are considerable cotton factories in the vicinity, but no manufacture in the town itself, except flax dressing, and the weaving of sacks, and other coarse articles. The Lancaster canal passes to the west of the town. The remains of Greenhalgh castle are near Garstang.

Dalton-in-Furness is about 17 miles west-north-west of Lancaster, on the little river Beck. The church is a small but neat building. There are two small endowed day schools. The town consists of one principal street, which, ascending to the west, terminates in a spacious market place. Near the town are the remains of an ancient castle. About one mile and a half on the south are the ruins of Furness abbey. Two miles east of the town there are iron works.

Ulverstone is 15 miles north-west of Lancaster, and about one mile and a half from the æstuary of the Leven, whence there is a ship canal to the town. The streets are wide and clean, and the houses are in general well-built. The church, which stands a little out of the town, was rebuilt in 1804, and is a plain neat edifice. An ancient cross stands at the intersection of the two principal streets. There are a small theatre, an assembly room, a public and a clerical library. The principal trade of this place is in iron ore, pig and bar iron, limestone, and slates; it also exports oats, barley, and beans. The manufactures are cotton checks, canvass, and hats.

Hawkeshead is in the north part of Furness, 24 miles north-north-west from Lancaster. It is situated in a valley between the Winandermere and Coniston lakes, and near the head of Easthwaite water. There is a neat town-hall of modern erection. The church is an ancient chapel, made parochial in the 16th century. Hawkeshead has a free grammar school. The town is surrounded by large iron-works, iron ore being abundant in this district; there is also a considerable quantity of wood grown in the neighbourhood, the underwood of which is cut down for the supply of the iron-works. The mountains on the north of Hawkeshead contain copper and slate. The slate quarries are among the largest in the kingdom.

Cartmell, 12 miles north-west of Lancaster, is a small irregularly built town: the church is large and ancient, built in the form of a cross in the early English style, with a central tower. There are in the whole parish four endowed day schools, national and other schools. Little trade is carried on here; there are some cotton mills which give employment to a few hands.

In the southern division of the county is Liverpool, a municipal and parliamentary borough, on the north-eastern side of the wide æstuary of the Mersey, 155 miles north-west of London. With the exception of London, it is the largest commercial port in the kingdom. Its progress in modern times has been very rapid. In 1565, it contained only 138 householders, and had 223 tons of shipping. In Baudrand's Dictionnaire Géographique, published in 1705, Manchester and Preston are noted as flourishing towns, but the name of Liverpool is not mentioned, although it is an ancient corporate town, since its charters were confirmed and its privileges enlarged so far back as the reign of Henry III. Soon after 1700, however, its commerce began gradually to rise in importance, and in 1710 the first dock, called the Old Dock, was constructed. The town sends two members to parliament. The limits of the parliamentary borough were enlarged by the Reform Act in 1832.

Liverpool now extends between three and four miles along the banks of the river, with an average width of about two miles. It is prolonged in numerous suburbs, consisting of villas and country houses; even at the distance of four miles from the town a

high price is obtained in some situations for land as building ground. Many of the streets in the older part of the town are narrow, ill built, and dirty; but these parts are gradually being improved, and most of the new streets are wide and airy, well paved, and lighted with gas. Some of the public buildings are on a large scale, as the Exchange and new Custom House, and adapted to the present commercial activity of the place. Liverpool has 26 churches, several of them handsome and of modern date; there are likewise between 20 and 30 chapels and meeting-houses for dissenters, and a synagogue. Numerous schools are supported by voluntary contributions, and there are likewise either daily or Sunday schools attached to most of the places of worship. The Blue Coat Hospital, established in 1710, clothes, lodges, and boards 250 boys and 100 girls; and the Female School of Industry affords the same advantages to about 100 girls. The Welsh Charitable Society has for its object the clothing, educating, and apprenticing of the children of Welsh parents. The Benevolent Society of St. Patrick is on a similar principle for the children of Irish parents. Liverpool is deservedly noted for the number and excellence of its benevolent institutions. A well-conducted infirmary stands in an open healthy situation; about 1500 patients are admitted annually; medical advice is likewise extended to the poor at their own houses. This institution was first opened in 1749, and is supported by voluntary contributions. The original building not affording adequate accommodation, a new one was erected on a large and handsome scale in Brownlow-street, and was opened to patients in 1824. There are 20 wards containing more than 150 beds. The Marine Society was instituted for the maintenance of decayed seamen belonging to the town, and of the widows and children of those deceased. This charity is supported by the contributions of the sailors; every sailor belonging to the port being bound to pay sixpence per month out of his wages for this purpose. There are two dispensaries, the south and the north, the first established in 1822, the second in 1829: previous to this there were however other dispensaries; the earliest was opened in 1778, and afforded excellent medical advice. The north dispensary is a handsome building in the Ionic style. Both dispensaries are under the management of one general committee. A House of Recovery for fever patients stands in an open, airy situation, and is considered to be very useful in preventing the spreading of infection. It was opened for the admission of patients in 1806. The School for the Blind is the parent of all the institutions of a similar kind in England. It is on a very extensive scale, and admits pupils from all parts of the kingdom; the pupils are employed in rope-making, basket work, and other occupations best suited to their condition. Music is also taught to those who show any particular taste for it, and many of the churches and chapels are supplied with organists and singers from this establishment. A chapel, attached to this institution, is in the form of a Grecian temple, and built on the model of that of Jupiter Panhellenius in the island of Ægina. An institution for the Deaf and Dumb was opened here in 1825, where not only those are instructed who are boarders, but also children may attend daily instruction, and continue to live with their parents. A new Lunatic Asylum was erected in 1829, with every suitable arrangement, capable of accommodating 60 patients. Among the numerous other charitable institutions, are the Northern Hospital, the Lock Hospital, the Strangers' Friends Society, the Female Penintentiary, and the Permanent Night Asylum for the Houseless Poor. This last is of recent establishment; the building has been made in some measure fire proof, by the introduction of an iron ceiling; the rooms are well warmed and ventilated.

A large theatre and a circus are open during great part of the year. The Wellington Rooms, built in 1816, contain a handsome suite of rooms for concerts, balls, &c.; the building is of stone, and decorated with sculpture. There are several handsome public buildings devoted to literaryand scientific purposes. The Liverpool Royal Institution, in the establishment of which Mr. Roscoe was mainly instrumental, was opened in 1817. It has for its object the delivering of public lectures, and promoting in every way the diffusion of literature, science, and the fine arts. Lectures on literary and scientific subjects are delivered in the institution; and regular courses of lectures and demonstrations are also given on the various branches of medical and surgical knowledge. The lecture room is capable of

accommodating 500 persons. A museum attached to the institution has a good collection in the department of natural history; and the committee room contains a series of highly valuable old paintings, which illustrate the history of the art. A large room contains the casts of the Ægina marbles, &c. A grammar school, which is well attended, is also attached to the institution. The Mechanics' Institution was founded in 1825. The rooms originally appropriated to this purpose were found, in consequence of increasing numbers, wholly inadequate, and in 1835 the first stone was laid for a more capacious building, which is a handsome edifice in the Ionic style, affording spacious accommodation. This new institution was opened in 1837. The Lyceum is a large, handsome, stone building, comprising a news-room and library containing 10,000 volumes. The Athenæum and Union Rooms are on the same plan. To the east of the town is a large and valuable botanic garden, containing a very spacious conservatory. The borough gaol is built on Howard's plan, on a very large scale. The county gaol, which is still larger, is situated at Kirkdale, two miles from the town, and is of recent erection. It is built in a circular form, with two large wings, and occupies, with its grounds, a space of 28,648 square yards. It was completed in 1821, and is adapted to contain 800 prisoners. A cemetery, called St. James's, appropriated to members of the Church of England, has been made out of the old stone quarry at the back of the Mount Gardens; it is laid out in good taste, and contains a marble statue (by Gibson) of Mr. Huskisson, who was buried here. On the north-east side of the town is another cemetery, surrounded with a high wall and inclosing an area of 24,000 square yards. The Exchange, commenced in 1803 and completed in 1807, is an elegant and convenient building, forming three sides of a quadrangle; in the east wing is a news and coffee room, 94 feet by 52, and above this, one of 72 feet by 36, appropriated to the underwriters; the fourth side is occupied by the Town Hall, the principal front of which is in Castle street. The area of this quadrangle, where the merchants transact their business, is twice the size of that of the old London Exchange, which was 144 feet by 117, this being 197 feet by 178. In the centre of this area is a group of bronze figures elevated on a pedestal of Westmoreland marble, representing the death of Nelson in the moment of victory. This monument, which was finished in 1813, was designed by Wyatt, and modelled and cast by Westmacott.

The Corn Exchange, a good stone building, was erected in 1807. The Old Dock, which was constructed in 1710, was filled up in 1831, and the site is now occupied by a new custom-house, excise, and post offices, and other public buildings. St. John's Market is situated in the centre of the town. This stupendous work was completed in 1822. The length of the building is 183 yards, and its breadth 45; the whole is roofed throughout in five ranges from end to end. There are 136 windows and eight spacious entrances. The whole forms a covered space of 8,235 square yards, or nearly two acres. There are 116 pillars lightly formed and elegantly arranged; the place is lighted up brilliantly every night by 144 gas lamps. The dock office for receiving the duties, and the dock police office, are situated in the same building as the custom-house.

The docks of Liverpool have been gradually increased and enlarged at a great expense, to meet the wants of the vast and increasing commerce of the port. An immense range of docks and warehouses extends nearly two miles along the banks of the river. The docks are of three kinds, wet docks, dry docks, and graving docks. The wet docks are chiefly used for vessels of large burthen, in which they can float at all tides, the water being retained by means of gates. The dry docks are left dry at low tides, and are generally occupied by coasting vessels of smaller tonnage. The graving docks can have the water admitted or excluded at pleasure, and are appropriated to the repairing of ships. The Old Dock was situated about the centre of this line of docks. A little to the north of this, and nearer to the river, is the Canning Dock, a dry dock constructed in the reign of George II., which is now converted into a wet dock; it contains an area of 19,095 square yards, and has a quay 500 yards long; it has communication with three graving docks. To the south of this is the Salthouse Dock, so called from some salt works formerly contiguous to

it, but now removed up the river to Garston. It was constructed about the same time as the dry dock; its area is 23,025 square yards, and its quay is 759 yards in extent: it has convenient warehouses, with arcades for foot passengers on the east side, and extensive sheds on the west side. The upper part of this dock is principally appropriated to ships which are laid up, and the lower part for vessels in the Mediterranean, Irish, and coasting trades. The whole of the buildings between its north end and the south end of Canning Dock have been taken down, and the space thus gained has been appropriated to the improvement of the dock and quay at the north end. The King's Dock, on the south of Salthouse Dock, was constructed in the reign of George III.; it encloses an area of 37,776 square yards; its quay is 875 yards in length. Tobacco is exclusively landed here, and on the west side of the quay are extensive warehouses appropriated to this article; they are 575 feet in length, and 239 in depth. There were warehouses on the opposite side, which are now converted into sheds for the security of merchandise. Across the entrance of the quay is a handsome swivel bridge of cast iron. A dry dock or basin, and two graving docks, communicate with this dock on the south; in the same direction a little further from the river, and also communicating with the basin, is the Queen's Dock, constructed about the same time as the King's Dock; its area is 51,501½ square yards, and the quay is 1,255 yards long. This dock communicates on the south with another, called the Half Tide Dock, and is connected on the west with the Brunswick Dry Basin. On the south of this is the New Brunswick Dock, opened in 1832, of much larger dimensions than any of the preceding, its area being 70,069 square yards, and its quay 1,092 yards long. It has a graving dock at the south end. This dock at present forms the southern extremity of the docks. On the north of Canning Dock is George's Dock, originally constructed in the beginning of the reign of George III., and since enlarged. It now contains 26,793½ square yards; the quay is 1,001 yards in length, on the east side of which is a range of extensive warehouses, and an arcade for foot passengers; on the west side are sheds for the protection of merchandise from the weather. At each end of the dock are handsome cast-iron bridges. On the north of this is Prince's Dock, which was constructed in the latter part of the reign of George III., and was opened with much ceremony on the day of the coronation of George IV. It has an area of 57,129 square yards, and a quay 1,613 yards long. Prince's Dock, George's Dock, Canning Dock, and Salthouse Dock, communicate with each other by basins. Along the west side of the dock is a parade near the river, 750 yards long and 11 wide, defended by a parapet wall; from this parade there are flights of steps leading to the river. To the north of the basin attached to the Prince's dock are four spacious wet docks, with the following dimensions,—

	Area in sq. yards.	Length of quays in yards.
Waterloo Dock	30,764½	1012
Clarence Dock	29,085½	839
Trafalgar Dock	33,642½	1050
Victoria Dock	29,313	914

Here is also a large graving dock, fitted up with patent slips. A small dock with convenient warehouses, situated between Salthouse and the King's Dock, belongs to the trustees of the late Duke of Bridgewater. The Mersey and Irwell Navigation Company have a small dock situated between the Canning and George's Dock, called the Manchester Dock. The several carriers by water have also basins with quays for the accommodation of their respective barges. A dredging machine is in constant use, worked by a steam-engine of ten horse power, for clearing the docks from the deposits brought up by the tides: fifty tons of silt are thus raised per hour into barges, by which it is conveyed to an open part of the river, where it is washed away by the current. The total dock room of this port is 111 acres, and the quay space is very nearly eight miles in length. The inland communication with Liverpool has already been noticed, and its amazing advantage can be best estimated by the amount of traffic between Liverpool and inland towns. It is the port of Manchester to which the raw material is sent, and from which it is returned in the form of manufactured goods. The quantity of merchandise passing daily between Liverpool and Manchester is estimated at much more than a thousand tons. In the last six months of

1832, 86,842 tons of goods and 39,940 tons of coal were conveyed along the Liverpool railway alone, independent of the transit of goods by the canals. In the first six months of 1836, there were conveyed 117,717 tons of goods, and 68,893 tons of coal by the railway.

The manufactures of Liverpool are chiefly those connected with shipping, or the consumption of the inhabitants. On the south of the town is an extensive pottery, where porcelain of a fine quality is produced: there are also large iron and brass founderies, breweries, soap works, and numerous sugar houses. In the vicinity are many windmills for grinding corn; also a large tide mill, and another worked by steam. There are very extensive roperies: two of which are conducted on improved principles, and by means of steam-engines.

The markets of this town are well supplied. Coals are obtained from Wigan by means of the Leeds and Liverpool canal. Water is supplied from springs situated in Copperas-hill, Bevington-bush, and Soho-street, whence it is raised by steam-engines, and distributed by means of pipes to the different parts of the town. There is also a large supply procured from the works at Bootle, two miles north of the town. The water company have also large reservoirs in Prussia-street, and New Hall-street.

Steam-packets of great power pass daily between Liverpool and Dublin, a distance of 131 miles. The time of passage is generally about 12 hours. There are also steam-packets to Glasgow, Carlisle, Whitehaven, North Wales, Isle of Man, and several ports of Ireland besides Dublin: of late years the steam-boats have greatly increased in number. There are also steam-packets passing continually every hour of the day from one side to the other of the river. Packets sail weekly to New York, and steam-packets have recently begun to be employed between Liverpool and New York. Several passages between the two parts have thus been successfully performed.

Manchester, situated in the south-east part of the county, 142 miles north-west by north of London, and 31 miles east of Liverpool, is now the greatest manufacturing town in the kingdom. It is the centre of the cotton-trade, and the first of the provincial towns for population and wealth. Manchester is supposed to have been a British station before the Roman conquest. That part of the town now called the Castle-field, near the confluence of the Medlock with the Irwell, is said to be the site of the British Mancenion, or "a place of tents." After its occupation by the Romans it was called Mancunium, and is distinguished by that name in the Itineraries. Manchester at an early period of our history became a manufacturing town, but it is only within comparatively modern times, that it began to approach its present magnitude and importance. In 1760 the population of Manchester was about 22,000; in 1831 it was above 142,000. In 1790 the first steam-engine was used in Manchester; in 1824 more than 200 steam-engines were at work, and nearly 30,000 power-looms. According to a Report made by the Manchester Statistical Society, the amount of steam-engine power at work in January, 1839, in the parliamentary borough of Manchester, was estimated at 7,916 horses; and that in the adjoining borough of Salford at 1,998 horses. This large town was unrepresented in parliament till the passing of the Reform Act in 1832; it now sends two members to the house of commons. A charter of incorporation was granted to Manchester in November, 1838.

Manchester stands principally on the east bank of the Irwell. The small river Irk, on the north of the town, and the Medlock on the south, join the Irwell: the three rivers wholly surround the east quarter, except on the north-east, where the Rochdale and Ashton canals come up to the town. The buildings have now extended considerably on the west bank of the Irwell, and form full one-fifth part of the town; they are connected with the other part of the town by five bridges over the river. This western part is called Salford, and is now represented by one member in parliament. The central parts of the town consist of streets, alleys, lanes, and courts, all crowded with warehouses, factories, and shops. But towards the extremities of the town there are many modern buildings, forming large and handsome dwelling-houses, either detached or in rows. The streets are now in general well paved, and nearly all the foot-paths are flagged. These are, however, only recent improvements: for till within a few years the streets

were so narrow that the increased traffic could not be conducted with ease and safety, and "they were not unfrequently the scenes of serious disaster." In Mr. Wheeler's History of Manchester, published in 1836, we find the following account of some of the recent improvements. "Market-street was previously a mere 'lane;' along which two carriages could scarcely move in line; the houses were of antique structure, for the most part in a dilapidated state, and the flag-way was in many places hardly a yard wide. The taking down, widening, and rebuilding, occupied many years: it was completed in 1834. Toad-lane was one of the filthiest suburbs of the town, so confined that the winds of heaven could scarcely penetrate it. King-street was of its present width, but bounded at the bottom by a carrier's warehouse, which was removed to make the existing junction with Deansgate. Ten or fifteen years ago the footway of this street and other principal thoroughfares was paved like the carriage way, from which it was distinguished only by a slight elevation. Toll-lane was a narrow avenue through which a cart could hardly pass, connecting Police-street with Deansgate; a fine wide thoroughfare in continuation of St. Anne's-street has been substituted for it. All these alterations are now completed."

The enormous increase of the town of Manchester may in some measure be conceived by the fact stated in a Directory of Manchester, published about two years ago, that since the last survey taken four years previous to that time, 700 new streets had been formed in the town, which, calculating each street to contain ten houses, and each house six inmates, gives an addition of 7,000 houses, and of 42,000 inhabitants.

The streets and most of the factories and shops are lighted with gas. The gas works, erected in 1817, are the property of the inhabitants, and managed by a Board of Directors. The profits of the works are paid over to the Improvement Committee, to be by them expended on behalf of the town. There are 18 churches, and about double the number of chapels for dissenters of various denominations in Manchester and Salford. Several of the churches are fine buildings. The collegiate or Christ Church, commonly distinguished as the Old Church, is a fine Gothic building, in the style of the 15th century. It is built in the form of a cross. The length from east to west is 216 feet, the length of the cross aisle 100 feet, and the entire breadth of the church, including Brown's Chapel, 120 feet. This church has recently undergone considerable improvements and repairs. It has recently been decided that Manchester and the great county in which it is situated should be placed under the superintendence of a bishop. The collegiate church will then become a cathedral, the title of warden and fellows will merge in that of dean and canons, and an archdeaconry of Manchester will be created. The see will be subject to the metropolitan jurisdiction of the Archbishop of York. St. Mary's church has a fine steeple 186 feet high, supported by eight Ionic pillars. Manchester contains numerous schools. The grammar-school, founded in the beginning of the 16th century, by Hugh Oldham, bishop of Exeter, has now a rental of at least 5,000*l.* per annum. The income of the school having become nearly double to the average annual expenditure, the appropriation of the surplus to some useful purpose was made the object of an application to the Court of Chancery in 1833. Authority was given for the expenditure of a sum not exceeding 10,000*l.* in the erection of a new school and a house for the head master. The old and the new schools are now conducted together, as the higher and lower schools. The learned languages, English, writing, arithmetic, mathematics, French, German, and other modern languages, together with the modern arts and sciences, are taught in this school; and illustrative lectures are delivered, 200*l.* per annum being allowed for the purchase of apparatus, &c. Fifty pounds a year are likewise applied to the formation of a library. A hundred and fifty free scholars are educated, and there are 12 exhibitions of 60*l.* per annum each for four years to the universities. There are 16 scholarships to Brazenhose college, Oxford, and 16 to St. John's, Cambridge, varying in value from 13*l.* to 26*l.*, which are shared in rotation with the pupils of Marlborough and Hereford grammar schools, and there are six of 24*l.* each, attached to Magdalen college, Oxford, to which pupils of the Manchester school have the preference.

Chetham Hospital and Library, com-

monly known as "the College," were founded in 1655, by Humphry Chotham. In this institution 80 boys are maintained and educated from the age of 6 to 14, when they are bound apprentice to a trade. The library contains between 18,000 and 20,000 volumes, besides a number of valuable manuscripts.

One school on the Lancasterian plan, established in 1809, gives instruction to 1,000 children. There is a smaller establishment on the same system. Two national schools, founded in 1812, accommodate 300 boys and 300 girls. A school, founded in 1809, is exclusively appropriated to female children intended for domestic service. In the Sunday-schools attached to the different [illegible] chapels many thousand churches and [illegible] instruction. A poor children receive [illegible] proprietary school has recently been established in Manchester. There are numerous other schools in Manchester and Salford.

According to late inquiries made by the Statistical Society of Manchester the proportion of the population in the borough of Manchester receiving education is 21·65 per cent., and in Salford 23·4 per cent.

To Manchester belongs the honour of having established the first provincial school of medicine and surgery. In 1825 a school of medicine and surgery was first instituted here, and opened in Pine-street; a second was shortly after formed and established in Mount-street; and a year or two afterwards several lecturers retired from this latter institution, and a third school was formed in Marsden-street. There are now two schools of medicine in Manchester, both of which are well conducted, and are highly useful institutions. Connected with the schools are libraries, and medico-chirurgical societies for the students.

The infirmary, consisting of a large general hospital, a dispensary, and a lunatic hospital, is situated opposite to Piccadilly, and includes several handsome buildings. It is enclosed at the back by a wall, and the area in front is surrounded by neat iron palisadoes; within this space is a large pond, the public baths, and some fine walks. This institution, which was founded in 1752, was erected, and continues to be supported, by voluntary contributions. The total number of patients admitted on the books of this charity in 1835 included 4,058 accidents: in the same year, 135 capital operations were performed in it. The building is capable of accommodating within its walls 200 patients. In Aytoun-street, a short distance from the infirmary, is the House of Recovery or Fever Ward, founded in 1796. It contains 21 wards, and has accommodation for 100 patients. The Lying-in Hospital was instituted in 1790.

The Strangers' Society was founded in 1791. An Infirmary for the relief of persons with Diseases in the Eye stands in King-street, and a Lock Hospital and Penitentiary have recently been established. A School for the Deaf and Dumb was founded in 1824. The Boroughreeve's charity consists of money bequeathed by different individuals for the relief of the poor and aged of the town: the funds are under the control of the boroughreeve for the time being.

The Exchange is a very handsome building of Runcorn stone. Its principal front, which is semicircular and presents a fine elevation, contains the grand entrance; there is another on the west from Exchange-street; the post-office, which forms part of the building, is entered from the south-west corner. On the ground floor is the news-room, a magnificent hall comprising an area of 4,060 feet. This building was erected in 1808. The upper rooms are for public meetings and other purposes of public business and amusement. The Portico Library and News-room, situated in Moseley-street, has a handsome portico supported by Ionic pillars, was opened in 1806. The Literary and Philosophical Society was founded in 1781, for the promotion of literature, science, and the arts. The Agricultural Society was established in 1767. The Royal Manchester Institution, for the promotion of literature, science, and the arts, was established in 1823. A handsome building for the reception of works of art, and for the other purposes of the institution, was completed in 1830; the land in Moseley-street on which it stands, and the building of the institution, cost about 31,000*l.*

The Natural History Society of Manchester has long been celebrated for the extent and beauty of its collection of birds. A handsome hall has recently been built for the reception of the various collections, the old

building having been found too small for their progressive increase.

The Manchester Mechanics' Institution was founded in 1824. The main public object of the institution was the delivery of courses of lectures, for which purpose there is an excellent and spacious theatre. But it is also the great aim of the society to afford private instruction to its operative members by means of evening classes. In 1834, a boys' day school was established in connexion with this institution, in which 210 boys are educated. A girls' school, which contains more than 100 pupils, has likewise been formed.

Besides the institutions noticed above, this town contains several others, scientific and literary.

The markets of Manchester are not on so great a scale as might be expected in a town of such magnitude. There is a handsome covered market in Brown-street, opened in 1827. A fish-market was erected in 1828.

Manchester contains two theatres, two circuses, a concert-hall, and assembly rooms. The New Bailey prison, a large building in Stanley-street, Salford, was founded in 1787, and has recently been greatly enlarged. It contains a court house, a grand jury room, and apartments for the magistrates, counsel, &c.

A large reservoir, about two miles from the market-place, furnishes an abundant supply of water to the town. The water is conveyed in stone pipes through all the principal streets. This reservoir is 600 feet square at the surface, and 22 feet deep, and contains when full about 212,232 tons of water.

Almost all kinds of cotton goods are fabricated at Manchester: silk and velvet are likewise manufactured. Dyeing, printing, and bleaching, as connected with the cotton factories, are carried on very extensively. The erection and keeping up of the various complicated machinery used in the different factories give employment to many workmen in large iron founderies, and other works of a similar kind. The machinery used for making the cards for pulling out the raw cotton is extremely ingenious. In the year (1838) 460,756,023 lbs. of cotton wool were imported for use into England, great part of which was manufactured in Manchester and other towns of Lancashire, and was sent away in the form of different fabrics to various parts of the kingdom and abroad. Liverpool is the great port to which the manufactures of Manchester are principally sent; but they are likewise forwarded to London, Hull, and other parts. The inland navigation already described supplies an easy communication with the eastern and western coasts. The facilities of conveyance between Liverpool and this town have been already noticed. The Duke of Bridgewater's canal communicates with the various canals in the south of Lancashire, and extends the navigation to Nottingham, Birmingham, Gloucester, and Bristol. On the east, the Ashton, Huddersfield, and Rochdale canals afford communication through Yorkshire, with the Humber. The Bolton and the Leigh canals communicate with the Leeds and Liverpool canal, and this communicates with the Lancaster canal, extending northward. This district is rich in an inexhaustible supply of coals, which are brought to Manchester by canal. The facilities afforded by the various railroads which are now, or are about to be constructed, branching out in all directions from Manchester, have already been detailed.

Ashton-under-Line, a market town six miles east of Manchester, on the river Tame, which divides it from Cheshire, consists of one principal street, and several smaller ones intersecting it at right angles. There are two churches, three parochial chapels, and twenty-four other places of worship; one of the churches is a large ancient building, the other is of modern erection. Near the old church is an ancient structure called "the Old Hall," supposed to have been built in the 15th century; adjacent to it are the remains of a prison of still greater antiquity. There is a small free school and also a national school. The court house has a theatre and a concert room over it; the whole is a handsome building.

The cotton trade is carried on here to a great extent in all its branches. Within the last ten years the cotton mills have increased from 30 to 70; many of which are on a large scale. A considerable number of manufactories of cotton and silk goods employ many weavers in the surrounding districts. There are more than 20 collieries in the parish, in which upwards of a thousand workmen are employed. The town is lighted with gas. Ashton is now represented by one member in

parliament. The canal affords great facilities to the trade of the town.

Middleton, a market-town five miles north of Manchester, has within the last half century risen from a small village to a considerable town, in consequence of the extension of the cotton trade from Manchester. The manufacture of cotton is carried on here in all its branches, and the printing and bleaching works are on a large scale. There is also a considerable twist manufactory. There are two chapels of ease besides the church, and two meeting-houses for dissenters. The free school, founded in 1572, by Queen Elizabeth, has six scholarships in Brazennose college, Oxford. There is also a small school partly supported by Lord Suffield, and several other schools.

Oldham, 6½ miles north-east of Manchester, has increased within the last 60 years into a populous manufacturing town. In 1832, by the Reform Act, this township, together with those of Chadderton, Crompton, and Royston, was formed into a parliamentary borough which sends two members to parliament. The town is pleasantly situated on a high eminence on a branch of the Medlock. It has a large and ancient church, and several places of worship for dissenters. There is an endowed school for instructing 50 boys in the classics; another similarly endowed school, an infant school and several other schools, together with sunday schools, affording instruction to several thousand children. The principal manufactures of the place are similar to those of Manchester. The town is surrounded on all sides by collieries.

Rochdale is a considerable market-town, situated 10 miles N.N.E. of Manchester. By the Reform Act it was made a parliamentary borough, and now returns one member. It stands on the sides of two hills, on the banks of the small river Roch, (a branch of the Irwell,) over which there is a stone bridge of three arches. The town is not well built, and many of the streets are narrow and badly paved. The church, which is an ancient building, stands on an eminence, to which there is an ascent from the lower part of the town by a flight of 126 steps. Another church has been lately erected. Besides these, there are two chapels of ease, with several meeting houses. A free grammar school was founded here in the reign of Queen Elizabeth. Its funds are less than 40*l.* per annum. The free English school has an income of 110*l.*, and affords education to 60 boys. There are several Sunday schools, and a national school. There are also a theatre and two assembly rooms. The town is well supplied with water. The principal manufactures are cotton spinning and weaving, fustian weaving, and flannel-making, to a great extent. The Rochdale canal, which communicates direct with the town by a small branch, has been of great advantage to this place and its neighbourhood.

Bury, situated on the east bank of the river Irwell, about two miles north of its confluence with the Roch, and eight miles north by west of Manchester, contains little that is worthy of observation. The roads in the neighbourhood are bad, the town is ill-paved and ill-drained, though, generally speaking, it is more airy, and perhaps more healthy, than some of the other manufacturing towns; and within the last few years it has been much improved and enlarged. The streets are now lighted with gas. Besides the church there are several places of worship for different dissenters. A free grammar school was founded here in 1726 by the Rev. Roger Kay, in which seventy scholars receive instruction: it has an income of 438*l.*, and two exhibitions of 25*l.* to the Universities. A charity school, founded in 1748, was converted into a national school in 1815; it now affords instruction to 280 children. There are likewise two infant schools. There are extensive manufactures of cotton in all its branches in this town; and there are also woollen manufactures. The canal affords easy communication with Manchester and other places. This town was made a parliamentary borough by the Reform Act, and now sends one member to parliament.

Bolton le Moors was so called because of its situation amidst extensive moors, parts of which are now enclosed and built upon. This town, which is 10 miles north-west of Manchester, consists of two townships, Great and Little Bolton, separated from each other by the small river Croal, over which there are several bridges. Bolton, though a large and populous town, has not the appearance of opulence or comfort: it contains a great many narrow lanes; there is a great deficiency of foot pavement; and the

drainage is indifferent. The town has, however, of late greatly increased, and is still rapidly increasing, both in population and wealth. It now covers nearly a square mile, having been very considerably extended by the enclosure of Bolton Moor, for which an act was obtained in 1792; this waste land comprised nearly 300 acres, which was divided into various allotments for building on. The cotton manufacture is pursued to an immense extent; the trade of the town being carried on through Manchester by means of the canal. Several centuries back this town was celebrated for its manufactures: Leland mentions it as a market for cotton and coarse yarns; and another writer, who wrote somewhat later, describes it as a place of great trade for fustians. The *mule*, a machine combining the principles of the spinning jenny and the water frame, and which was of immense importance in the improvements of cotton spinning, was invented by Crompton, who brought the machine to perfection, and first into use in this town. Some of the largest cotton mills in the county are in Bolton. More than 100,000 spindles are at work in each of the two principal factories; and there are nearly fifty factories in the town and its vicinity. There are several large chemical works, paper works, and extensive founderies and machine manufactories. There is a handsome ancient church in Great Bolton, a modern church and a chapel in Little Bolton, nine dissenting chapels, and a Catholic chapel. A free grammar school gives education to 120 boys; it has an income of 485*l.*, and one exhibition of 5*l.* per annum. Another free grammar school has an income of 140*l.*, and contains 100 scholars: it has also one exhibition to the Universities. Rivington school, with an income of 308*l.*, affords instruction to 150 boys. Besides these, there are eight charity schools. The town has a dispensary, public library, and news room, and many other charitable and useful institutions. Bolton was made a parliamentary borough by the Reform Act, and is now represented by two members. The town is well lighted with gas, and abundantly supplied with water from springs situated about four miles north-east of the town.

Wigan, an ancient borough, and market-town, 16 miles W. N. W. of Manchester, is situated on a hill on the banks of the river Douglas, and is a thriving town. Though of irregular appearance, it has in modern times been much improved by the opening of new streets, and the erection of several handsome buildings. The parish church, a very ancient structure, consists of a nave, spacious chancel, and two side aisles; there are likewise a chapel of ease and seven dissenting chapels. A free grammar school, endowed in the beginning of the last century, and having an income of 200*l.*, affords instruction to 95 boys; there are also seven other charity schools.

A monumental pillar stands at the north end of the town, erected in 1679 by the then mayor of the town to commemorate the valour and loyalty of Sir Thomas Tyldesley, who fell on this spot in 1651, in the action wherein the Earl of Derby was defeated by Lilburne. The town-hall was built in 1721. The dispensary is a modern building. Wigan has large manufactures of all kinds of cotton goods: sixteen or seventeen factories are in full work. There is also a manufacture of coarse linen. Large brass and pewter works are carried on in the town. There is a cloth hall for the sale of woollen and cotton goods, and hardware. The town is lighted with gas, and well supplied by a private company with water. Wigan lies on an immense field of coal, which is worked in its vicinity, and is sent to Liverpool and other places by means of the Leeds and Liverpool canal, which runs close to the town. Two members are returned to parliament from this place; and it is one of the polling-places for the south division of the county.

Warrington, a large market-town, 16 miles east of Liverpool, is situated on the north bank of the river Mersey, which is navigable for vessels of 70 or 80 tons burden to Bank Quay, where warehouses, cranes, and other conveniences for landing goods are erected. Bank Quay is situated a little to the west of the town, by which arrangement a great bend of the river is avoided. There is a handsome stone bridge over the river; the spring tides rise here to the height of nine feet. The town consists of four principal streets and several smaller ones, which are generally narrow and not well drained. The parish church contains many ancient and handsome monuments. There are two other churches built within the last century, and likewise places of worship

for several dissenting congregations. There is a free grammar school with a rental of 550*l*., and 20 scholars. The Blue Coat school, with an income of 450*l*., boards, clothes, educates, and apprentices 25 boys, and gives education to 150. There is also another charity school. The principal manufacture of Warrington was of sail-cloth, which of late years has been very materially injured, the greatest part of it being removed to Liverpool and other places on the sea-coast. Pin-making, iron-founding, cotton-spinning, and glass-making are among the staple manufactures of the town. The appearance of Warrington is less flourishing than formerly, when it was the great thoroughfare from Liverpool to Manchester. The railroad from Liverpool to Birmingham passes close to the town. Warrington was made a parliamentary borough by the Reform Act, and sends one member to parliament.

Newton, situated on a small stream which runs into the Mersey, is 14 miles east by north of Liverpool. It was formerly represented in parliament by two members, but it was disfranchised by the Reform Act. Newton is on the line of the Liverpool and Manchester railroad; and there is also a railroad from Newton to Warrington, which in the latter part of its course coincides with the Liverpool and Birmingham railroad. The town consists principally of one street. It is a chapelry in Winwick parish; the chapel is a comparatively modern building. There is an ancient court house, which is now used as a school. Newton has one endowed school, besides day and Sunday schools.

Newton is the place of election for the southern division of the county.

Prescot, a market-town, seven miles east of Liverpool, on the great road from London to that place, and near the Liverpool and Birmingham railroad, stands on rising ground, and principally consists of one long straggling street. The church is a large building with a spire 158 feet high; there are several meeting-houses for dissenters. The free grammar school, with an income of 120*l*., gives education to 50 boys; there is likewise another free school, and several almshouses. The cotton manufacture has been partially introduced here, but the principal trade of the town consists in the making of watch tools, for which this place has been long noted. Sail-cloth and earthenware are also manufactured to some extent.

St. Helens, 3½ miles from Prescot, has extensive glass manufactories, where excellent plate glass and concave and convex mirrors are made. The largest, and, until within the last few years, the only, manufactory in England for casting plate glass is at Ravenhead, near the town of St. Helens. Crown, flint, and bottle glass are also made here.

Ormskirk, a market-town, 12 miles north of Liverpool, consists of four principal streets, crossing each other at right angles. The church is a large building, with a tower and steeple detached from each other, and standing side by side: it contains the burying place of the Earls of Derby. There are places of worship for dissenters, a grammar school, and some few other charities. There are two large annual cattle fairs. Ormskirk is one of the polling places. About three miles east of the town is Lathom house, the seat of Lord Skelmersdale, well known for its gallant defence, by the Countess of Derby, in the civil wars of the 17th century. The house, standing in a marsh, and protected by thick walls, was well calculated for resisting the besiegers.

Leigh, 11½ miles west by north of Manchester, is situated on the road from Newton to Bolton. Its principal manufactories are cambrics and fustians. In the vicinity are collieries and stone quarries. The district round the town is occupied by dairy farms, in which excellent cheese is made. There are two schools partially endowed, besides other schools.

Population of the market towns of Lancashire.

Lancaster (B)	12,613 (1)
Liverpool	165,175
Manchester (T)	142,026 (2)
Salford	40,786
Ashton	33,597
Oldham (T)	32,381 (3)
Middleton (T)	6,903 (4)
Bury (T)	15,086 (5)
Rochdale	58,441
Haslingden	7,776
Burnley	7,551
Colne	8,080

(1) Whole parish 22,294.
(2) Whole parish, in which Salford is included 270,961.
(3) Whole parish 67,579.
(4) Whole parish 14,379.
(5) Whole parish 47,829.

Clitheroe	5,213	
Blackburn (T)	27,091	(6)
Preston (B)	33,112	
Garstang	6,927	
Hornby	383	
Poulton	4,082	
Kirkham (T)	2,469	(7)
Chorley	9,282	
Ormskirk (T)	4,251	(8)
Bolton (T)	28,299	(9)
Wigan (B)	20,774	(10)
Leigh (T)	2,780	(11)
Newton	2,139	
St. Helens		
Prescot (T)	5,055	(12)
Warrington	19,155	
Ulverstone	7,741	
Cartmell	4,802	
Dalton	2,697	
Hawkeshead	2,060	

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Whitaker's History of Manchester.

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YORKSHIRE

Is the largest county in England, being more than twice the size of Lincolnshire. Yorkshire is bounded on the north by Durham, from which county it is separated by the river Tees: on the north-east and east it is bounded by the German Ocean; on the south-east by Lincolnshire and Nottinghamshire; on the south by Derbyshire and part of Cheshire; on the west by Lancashire; and on the north-west by Westmoreland. Its greatest length, from east to west, is 101 miles; and its greatest breadth, from north to south, is 87 miles; its area is 5,961 square miles.

Yorkshire is divided into three ridings—north, east, and west; and it may simplify the description of the whole, if each riding is treated as a separate county. A small district, called the ainsty of the city of York, which is situated to the westward of that city, has a separate jurisdiction, and cannot in strictness be considered as included in any of the ridings: but being intimately connected with York, it is more convenient to treat it as part of the West riding, of which it formed the eastern boundary, till the passing of the Reform Act, by which York and the ainsty were placed in the North riding. The general description of the great plain, which is the striking feature of this county, has been already given. (P. 28.)

The West riding is divided from the North riding by a rather irregular line running in a north-west direction from the city of York to the border of Westmoreland. From the East riding the line of separation follows the course of the Ouse, beginning at the city of York, and ending on the borders of Lincolnshire.

The eastern part of the riding is flat and marshy along the river Ouse, which is also the character of the county to the south as far as Doncaster, and to the east of a line drawn from that town to Tadcaster. Farther to the west, as far as Sheffield in the south, and Otley in the centre of the riding, the surface is undulating, and gradually rises into hills; still farther to the west the country is rugged, and may be called mountainous. The mountain tract is a portion of the great Pennine chain. The greater part of the riding is inclosed, and in the lower parts pretty well wooded. In the elevated mountain districts there are extensive tracts of waste land, which are employed for depasturing sheep and cattle.

The navigable rivers of the West riding are the Ure, the Ouse, the Don, the Calder, the Aire, the Wharfe, the Nidd, and the Ribble.

The Ure, which rises near the borders of Westmoreland, becomes the boundary line between the North and the West ridings of Yorkshire a few miles north-west of Ripon, past which town it flows in a south-east direction to Aldborough, where it receives the waters of the Swale. Six miles lower down the united stream

(6) Whole parish.... 59,791.
(7) Whole parish.... 11,630.
(8) Whole parish.... 14,053.
(9) Whole parish.... 63,034.
(10) Whole parish.... 44,486.
(11) Whole parish.... 20,083.
(12) Whole parish.... 28,084.

takes the name of the Ouse, and pursues the same course to the city of York, where it becomes the boundary between the West and East ridings, and takes a southerly and then an eastern direction until it joins the æstuary of the Humber. The Ouse is navigable for large barges up to York. The Don rises in the south-west part of the riding, a few miles south-east of Penistone. It flows south-east to Sheffield, where it takes a north-easterly direction, passes Rotherham and Doncaster, and falls into the Ouse at the port of Goole. The Calder rises on the border of Lancashire, about nine miles west of Halifax, and in the same swamp in which the Lancashire Calder has its source; it passes about two miles south of Halifax to Dewsbury and Wakefield, and thence runs nearly north-east to Castleford, about 10 miles below Leeds, where it joins the Aire. The Aire, which is one of the largest rivers of the county, rises in the mountain district near Malham, a village five miles east of Settle and 30 miles north-west from Leeds, to which town the river flows in a general south-east course. Still pursuing the same direction, it runs past Castleford to Snaith, where its course is altered to the E. N. E. to Armin, where it joins the Ouse. The Wharfe rises near Greenfield, five miles north of Pennigant; it flows 50 miles south-east to Otley, Harewood, Wetherby, and Tadcaster, and falls into the Ouse near Cawood. The Nidd rises in the valley of Netherdale, flows south-east to Ripley and Knaresborough, and falls into the Ouse at Nun Monkton, eight miles north-west of York. The Ribble rises near the north-west corner of the county, within a short distance of the source of the Wharfe. It flows south past Settle and Gisborne, and passes into Lancashire at Remington, five miles north-east of Clithero, in that county.

These natural facilities for commercial intercourse have been much improved. Something was done with this view by the passing of an Act of Parliament (10 and 11 of William III.) in 1699, for making and keeping navigable the rivers Aire and Calder. An attempt to procure an Act for this purpose was unsuccessfully made in 1625. It is worthy of remark, that the Act of 1699 was passed 50 years earlier than any enactment for canal navigation in the kingdom. In the distance, about 10 miles, between the junction of the Aire with the Calder at Castleford and the town of Leeds, beyond which place the Aire is not navigable, there is a fall of 43 feet, a difficulty which has been obviated by the construction of six locks. In the distance of 18 miles after the junction of the two streams at Castleford, a fall of 34½ feet has rendered four locks necessary. On this part of the navigation several short canals and railroads have been constructed by individuals who use the river for transporting coals, limestone, and other products of their estates to market. The navigation of the Calder, previous to its junction with the Aire, begins near the town of Halifax, where it is joined by the Hebble, a small but rapid stream, which rises above Ovenden. From Halifax to Wakefield, a distance of 22 miles, there is a fall of 192 feet 6 inches, requiring 28 locks. From Wakefield to Castleford, 12½ miles, the fall is 28 feet, and the requisite locks are four in number. Under an Act passed in 1774, the navigation of the Aire was improved below Castleford by several cuts made for avoiding shoals, and a navigable canal was made from Haddlesey to Selby, about five miles in length, which joins the tideway of the Ouse at that town. More recently, in 1820, the undertakers of the Aire and Calder navigation obtained an Act for the purpose, and have opened a canal from the Aire, at Ferrybridge, to Goole, where it falls into the tideway of the Ouse, a distance of 18½ miles. The navigation between the Humber and Leeds has since been improved by some cuts made between Wakefield and Ferrybridge, and between Leeds and Castleford, by means of which the depth of water is in every part sufficient to admit vessels of 100 tons burthen from the German Ocean to the towns of Leeds and Wakefield.

The navigation is continued in the opposite direction to the west coast of England by means of the Leeds and Liverpool canal, the most extensive undertaking of the kind in this country. This canal enters Yorkshire about seven miles south-west of Skipton, passes Skipton, and follows very nearly the course of the Aire to Leeds, where it terminates. The Rochdale canal begins in the Calder navigation at Sowerby bridge wharf, and runs westward to Todmorden, where it leaves this county: it joins the Duke of Bridgewater's canal, and thus connects the county of York with Manchester and Liverpool.

The Bradford canal, three miles in

length, falls 86 feet, by 10 locks, into the Leeds and Liverpool canal near Shipley. The Barnsley canal is 15 miles in length between the town of Barnsley and its junction with the Calder, three quarters of a mile below Wakefield. Near Barnsley it is joined by the Dearne and Dove canal, a cut 9¼ miles long between that point and the township of Swinton. The Sheffield canal connects that town with the river Don, which it joins at Tinsley, the place whence that river is navigable, and about four miles from Sheffield. The Stainforth and Keadby canal, 15 miles in length, connects the Don with the Trent, and by avoiding the shoals in the lower part of the Don, improves the line of communication with Lincolnshire and with the port of Hull in the East riding of Yorkshire.

The internal communications of this important manufacturing district have further been improved by the construction of several railways, some of which have been completed by proprietors of coal-mines and stone-quarries as means for reducing the expense of conveying their products to market. The Leeds and Selby railway was made for facilitating the transit of merchandise in general between Leeds and the shipping ports of Hull and Goole. This railway, which is only one furlong short of being 20 miles long, commences at the town of Leeds, and to avoid the necessity of ascending a hill 72 feet high, enters a tunnel 800 yards in length. Its course is easterly in almost a straight line to the banks of the Ouse in the town of Selby. The Heck and Wentbridge railway, which is seven miles long, begins at Heck-bridge, in the parish of Snaith, where it communicates by a basin with the Knottingley and Goole canal, and pursues a circuitous course in a south-west direction, terminating at Wentbridge, in the parish of Kirksmeaton, on the high road from Doncaster to Ferrybridge. The main object of this railway is to bring the stone quarried at Wentbridge and its neighbourhood to London.

The soil in the eastern part of the riding is principally composed of clay and loam, occasionally interspersed with sandy moors. Loam upon a limestone bottom prevails in the other parts of the riding. The climate in the hilly parts is cold and rainy; the lower tracts are milder and drier, yet at Sheffield, near the centre of the south border of the county, the annual average quantity of rain is 33 inches, which is five inches more than the general average of England. The marshy land on the east is very subject to fogs. Notwithstanding this, the mean duration of human life is quite as great in the West riding of Yorkshire as in the kingdom generally.

The land in the vicinity of manufacturing towns is almost entirely devoted to pasture. The corn land of the riding is mostly to the eastward of Sheffield, Wakefield, and Leeds. In the marsh lands a good deal of flax is cultivated, and mustard is raised in considerable quantities in the ainsty. Teazles are also grown in many parts of the riding, and liquorice is cultivated near Pontefract or Pomfret, where its juice has for a very long time been profitably manufactured into a confection universally known as Pomfret cakes.

The cattle reared throughout this division of the county are of very different kinds, adapted to the varying nature of the land. The breed of sheep has been very much improved of late years by judicious crossing with the Leicestershire breed, and their meat is much esteemed.

The geological features of the county may be distinctly traced. The mountainous districts of the west, belonging to the Pennine chain, are occupied by the carboniferous limestone, which crops out from beneath the millstone grit; this latter rock extends almost entirely between the coal fields of Lancashire and Yorkshire, and from a little north of Leeds, where the coal-field terminates, continues on to Durham and Northumberland in a line running through this part of the county, a short distance west of Knaresborough and Ripon. The magnesian limestone runs in a narrow strip from south to north between the millstone grit and new red sandstone in the north, and more southerly bounds the coal measures. On the east of this zone of limestone, the new red sandstone appears. Snaith and Doncaster are on this formation. The Yorkshire coal-field is part of the great coal-field already described in the account of Nottinghamshire and Derbyshire. It extends a little beyond Leeds, and nearly as far as Bradford on the north, occupying a great portion of the southern part of the riding. As it enters this county it becomes much broader, being here about 20 miles in breadth, while farther south it does not average above

half that width. Sheffield, Rotherham, Barnsley, Wakefield, Huddersfield, and Halifax are included within its area. The general dip of the coal strata is to the eastward, and in this direction they are lost beneath the zone of magnesian limestone already described. The depths of the pits are in some places very considerable. The seams of coal vary in thickness from two to five or six feet, and in some places are partially exhausted. The quality of coal is similar to that of Newcastle, but somewhat inferior. This coal-field, from its inland position, has little export trade, but the quantity raised for the supply of the manufacturing district in which it is situated, is very great.

The West riding is particularly rich in mineral productions. Besides the coal, which is raised in such large quantities, iron, lead, and limestone are very abundant. Fine pipe-clay is found in the parish of Leeds, and a considerable quantity of clay-slate on the south side of the river Aire. From this district the county is also supplied with flagstones, which are much used for paving. In the north-western part of the riding, near Arncliffe and Kettlewell, ores of zinc are found in abundance. The village of Wickersley, four miles east of Rotherham, supplies Sheffield with stones well suited for grinding the finer descriptions of cutlery made in that town. More than 5000 of the stones, some of them six feet in diameter, are annually sent to Sheffield.

This division of the county possesses some mineral springs, which have acquired considerable celebrity. Those of Harrowgate, a village between two and three miles from Knaresborough, are resorted to by invalids from all parts of the kingdom, and the place has become of late years one of the principal watering places in the north of England. The village of Thorp-Arch, about three miles from Tadcaster, on the river Wharfe, is also much frequented on account of its sulphureous and chalybeate springs.

Yorkshire is divided into 28 wapentakes, besides the ainsty, and contains one city and 59 market-towns. Of these divisions the West riding comprises 10 wapentakes and 29 market-towns, besides the city of York, and the ainsty, now in the North riding.

These ten wapentakes are Agbrigg, Barkston Ash, Claro, Staincliff, Ewcross, Morley, Osgoldcross, Skyrack, Staincross, Strafforth and Tickill.

The city and county of York, the capital of the county, is situated in a rich and extensive valley at the confluence of the rivers Ouse and Foss, and at the point of junction of the three ridings. The city is 196 miles north by west from London.

This city sends two members to Parliament. The limits within which the elective franchise is exercised extend on all sides to the liberty of the city, and comprise an irregularly formed area, the greatest dimensions of which, from north to south and from east to west, are respectively 2¾ miles.

The most probable explanation of the origin of the name of York appears to be that of Camden, who considers the name to be derived from the river Eure, now called the Ure, which name is conjectured to have been formerly applied to the Ouse as low as York.*

Though the origin of York is unknown, it was a city of some note during the Roman dominion in Britain. The emperor Septimius Severus fixed his residence here on his arrival in England in the year 207, and remained during some years, as appears from a rescript still preserved which was issued by him, dated from the city about the year 211. Severus died at York A. D. 212. York is the see of an archbishop who styles himself Primate of England, while the Archbishop of Canterbury is called Primate of all England. He takes precedence of all dukes who are not of the blood-royal, and of all officers of state except the Lord Chancellor. York has five suffragan bishops, Durham, Carlisle, Chester, Sodor and Man, and Ripon.

York is about 2¾ miles in circumference. It is surrounded by walls which were in existence in the time of the Heptarchy, and were rebuilt in the reign of Edward I.; these walls, which were fast falling to decay, have lately, with the exception of a small portion, been repaired, and form a beautiful walk round a great part of the city. The entrance to the city is by four principal gates.

In addition to its magnificent cathedral, York contains 23 parish churches, besides numerous places of worship for different sects of Christians, including

* The Romanized name of Eboracum appears to contain the name of the river, with the termination *acum*, which occurred in the Romanized names of many other places, particularly in Gaul.

two Catholic chapels and a Friends' meeting-house.

The ornament of the city is the cathedral or minster, one of the largest religious edifices in England. Its internal length from east to west is 483 feet, the length of the choir is 223 feet, and of the transcepts from north to south 222 feet. The breadth of the nave and side aisles is 103 feet: the height of the vaulting of the nave 96 feet; of the two western towers or steeples 196 feet, and of the lantern tower 235 feet. The origin of this building was a small oratory built of wood in the year 625, by Edwin, king of Northumbria, on the site of the present cathedral, and dedicated like it to St. Peter. The king was soon induced to build a larger and more substantial fabric of stone in which the wooden oratory was inclosed. This building was completed in 632 by his successor, Oswald, who was slain by the pagan king of Mercia, and the church was nearly destroyed. Forty years after the building was restored by Archbishop Wilfred, and it so continued until the year 1069, when it was destroyed by fire. Having been again restored, it was once more, as it was commonly said, burnt down by accident in 1136, and was again rebuilt in 1171. But there is no proof of this. The choir was repaired and altered by Archbishop Roger. From that time various additions were made to the building, the principal of which, a new choir, undertaken by Archbishop Thoresby, was completed in 1370, when the cathedral assumed its present form and dimensions; affording a specimen of some of the finest architecture in England. The western or principal front is of most imposing appearance. It is highly ornamented with rich tracery of beautiful execution. The top of each of the two towers is surmounted by eight pinnacles, and in the south tower is a peal of ten bells, unequalled it is said by any in the kingdom. The southern and northern fronts are almost equally magnificent. The eastern or choir end, begun by Archbishop Thoresby, is of more modern date, and exhibits a more florid style of architecture, decorated with niches and airy pinnacles. The interior in every way harmonises with the magnificence of the exterior. The chapter house is a splendid structure; in form an octagon of 63 feet in diameter, and to the centre knot in the roof more than 67 feet in height.

Early in 1829 the cathedral was set on fire by a lunatic, when the roof of the choir and its internal fittings were destroyed. This damage has since been completely repaired by means of a public subscription, and the choir restored in conformity with its former appearance. "Nothing," to use the words of Dugdale, "can exceed the grandeur of York cathedral as a Gothic edifice. To enter minutely into the detail of its architecture would require a volume." It is much to be regretted that this noble building is so closely surrounded by houses that it is impossible to obtain a full view of it from any point.

The ruins of St. Mary's Abbey are on the north side of the city. This building, the abbot of which was mitred and had a seat in Parliament, once occupied an area three quarters of a mile in circuit. Ingulphus states that a monastery stood on this spot before the Norman invasion. This building was destroyed by fire in 1270, but was completely rebuilt before the close of the century, and the present ruins are the remains of this edifice. This abbey was richly endowed. At the time of the dissolution of religious houses, its revenues amounted to £2,085, a considerable sum in those days. The site is now principally occupied by the old palace built by James I., part of which is appropriated to a school for the blind, and by the museum and botanical garden of the Yorkshire Philosophical Society.

The other principal buildings in the city of York are the Mansion House, erected in 1725, for the residence of the lord mayor: the Guildhall, a fine Gothic structure, erected in 1446, the roof of which is supported by ten octagon pillars of oak placed on stone bases: the law courts and the council chamber of the corporation are attached to this building. The museum is from a design by Wilkins, built in 1828. The County Hall, built in 1777, is 150 feet long and 45 deep; its style is Ionic. The City Gaol, a spacious and airy building of brick, was begun in 1802 and completed in 1807. The Castle, also used as a prison, is said to have been built by William I. It was converted to its present purpose towards the end of the 17th century. A new prison has lately been built on the Panopticon plan. The assizes for the three ridings of Yorkshire are held within its walls. The walls which surround the castle are 1100

yards in extent, and within this area, called the Castle Yard, the county meetings are held. The area has lately been greatly enlarged.

Several manufactures are carried on in the city, but none on a large scale. The works for preparing white and red lead, and for making flint glass, are the most extensive.

The mayor of York has the prefix of lord to his title. Under the Municipal Corporation Act the city is divided into six wards, with 12 aldermen and 36 councillors.

The archbishops of York had formerly a palace near the cathedral, but it was taken down towards the close of the 16th century. The only official residence within the county now possessed by this dignitary is the palace at Bishopsthorpe, a very handsome building, with extensive pleasure grounds, about three miles south of the city on the banks of the Ouse. This structure was erected early in the 13th century by Archbishop Walter de Grey, since which time the palace has been considerably improved.

The charity schools in this city are numerous. A grammar-school in the close of the cathedral was founded in 1546, by the then archbishop of York. This is a chartered school, under the designation of the "Free School of Robert Holgate." There was formerly in that part of the suburbs of the city called *Le Horse fayre* an hospital founded by Robert de Pykering, dean of York, in 1330. On its suppression, the hospital with all its possessions was annexed to the dean and chapter of York, who, under a charter from Philip and Mary, founded a grammar-school, and perpetually endowed the master with the lands.* Three free schools were erected and slenderly endowed by the late Mr. John Dodsworth of York, in each of which instruction is given in reading and writing to 24 children. Houghton's school, the Blue-coat boys', and the Grey-coat girls' schools have ample funds for the educating and apprenticing of the children admitted into the schools. The Central Diocesan Society have two schools, in which a large number of both boys and girls are instructed. There is likewise a Lancasterian school, a Catholic school, a spinning school for girls, besides Sunday and numerous other schools.

* The school is now held in the minster yard, on the south side of the cathedral.

York abounds in charitable institutions. The hospitals for the relief of aged persons, widows, &c., which are more than 20 in number, it is not necessary even to enumerate here by name. Besides these are the county hospital, founded in 1740; the dispensary, established in 1788; the lunatic asylum, erected in 1774: and the Retreat, about a mile from York, founded in 1796 by the Society of Friends, for the better treatment of persons afflicted with insanity; whence originated that more enlightened and humane management of the insane, which is now fast superseding the older and irrational practice. The other charitable societies of York are those usually belonging to a large and populous city.

The city is in a flourishing condition; many superior dwellings have been recently erected, and more are in progress in the outskirts in every direction.

Printing was established in York about 38 years after its introduction into England. Ames, in his Typographical Antiquities, observes, "Printing in York was early in respect to other places in this kingdom, which would incline one to conclude they had some brave spirit among them wishing to cultivate common sense."

Knaresborough, 16 miles north-west from York, is situated in the wapentake of Claro, on the side of a hill on the north-eastern banks of the river Nidd, over which there is a handsome stone bridge. Knaresborough is a well-built, handsome town, in which one of the greatest corn-markets of Yorkshire is held every Wednesday. The Nidd being here deep and rapid offers facilities for turning water-wheels, which has led to the establishment of mills for the linen manufacture. This kind of mechanical power has hitherto been of the more importance, as the town has had no good means of communication with any coal district.

The parish church is an ordinary looking building of great antiquity; part of it appears to have been built at different times. It is not large, nor is it characterized by anything particular. The town contains also an Independent meeting-house and a Methodist chapel.

Knaresborough Castle was built by one of the Norman followers of William I. It was held by the king's forces in the civil wars of Charles I., and stood out for some time against the parliamentary leaders, from whom honourable

terms of capitulation were obtained: this fortress was destroyed in 1648 by order of Parliament. Opposite to its ruins, and on the opposite side of the river Nidd, is a curious dropping well. The spring whence it is supplied rises at the foot of a limestone rock on the declivity of a hill. Running about 20 yards from its source towards the river, it spreads itself over the top of a rock about 40 feet square, through which it trickles in numerous places, dropping with sufficient quickness to deliver about 20 gallons of water in a minute. Many years ago this rock broke away from the bank, and the water has since been conveyed to its surface across the chasm by artificial means.

Knaresborough sends two members to Parliament, who are chosen by the inhabitant householders of a district extending one mile and a half in a north-west direction, along the course of the river Nidd, and about one mile from that stream in a north-east direction.

Harrowgate, between two and three miles W. S. W. of Knaresborough, derives its importance from the medicinal waters. The sulphur well, where the Harrowgate water is obtained, is at the foot of a hill rising to the south-west. The supply appears to be inexhaustible, and affords an abundance, not only to the numerous invalids who visit the town in order to drink the water, but also for distant consumption, many persons being constantly employed in bottling and sending it away to all parts of the kingdom: it is efficacious in cutaneous and scrophulous complaints. Harrowgate contains numerous hotels and lodging houses; the situation of the town is high, and the air is considered healthy.

The borough of Ripon, 23 miles north-west of York, in the wapentake of Claro, is built upon rising ground about the centre of the boundary between the West and North ridings. The town stands upon the right bank of the Ure, over which there is a handsome stone bridge of 17 arches. Ripon is a very ancient town, and is a borough by prescription. The place was destroyed by fire in the year 948, and was rebuilt two years after, but was again so completely destroyed at the time of the Norman invasion, that when the Doomsday survey was made, the site was nearly a waste. Soon after this time, however, it was again restored, and notwithstanding the predatory incursions of the Scots to which it was occasionally subject, it continued to flourish, and in 1604 received a charter from James I.

Although almost all the streets are narrow, they are usually clean. The market-place is a spacious square, the sides of which are composed of good houses: the centre is ornamented with an obelisk 90 feet high, and on the east side is a well-built town-hall. There is an excellent corn-market held every Thursday. Ripon was formerly noted for its manufacture of spurs. The weaving of woollen cloths was also once extensively carried on here. Its only title to be now considered a manufacturing place arises from the great number of saddle-trees made in Bondgate, one of its suburbs.

The town contains a collegiate church, commenced in 1331, but not completed until 160 years after, a circumstance which accounts for the diversity of style observable in this building. It is now the cathedral church of the newly-created bishopric of Ripon. Ripon contains a free grammar-school, endowed by Philip and Mary, to which the sons of all resident inhabitants are admissible. The surrounding country is rich and well wooded, and the town has latterly increased in importance owing to many wealthy families having settled in the neighbourhood.

Ripon sends two members to Parliament. The extreme length from north to south of the district, within which the elective franchise is enjoyed, is 2¼ miles, and its extreme breadth from east to west 1¾ mile.

Aldborough, 16 miles north-west of York, near the Ure, is a place of great antiquity, and the site of Isurium, the capital of the Brigantes. It was re-founded by the Romans, who built a wall around it nearly a mile and a half in circuit, the remains of which may still be traced. Numerous Roman antiquities have been dug up here, and handsome tessellated pavements have occasionally been discovered. Aldborough is at present little better than a village. It was disfranchised by the Reform Act, up to which time it was represented by two members in parliament.

Boroughbridge, 17 miles north-west of York, and 2 miles from Aldborough, is a neatly-built town on the Ure, which is here crossed by the great north road. It is now a disfranchised borough, but till the Reform Act it had been repre-

sented by two members in parliament from 1557. In the centre of the market-place is a handsome column or cross 12 feet high. On the south-west side of the town there are three large obelisks, called the Arrows, consisting of single stones placed nearly in a right line.

Wetherby, 13 miles west of York, is a market-town situated on the banks of the Wharfe. It consists principally of one long street, behind which is the market-place and some smaller streets. The quarter sessions of the peace for the West Riding are held here once a year in rotation with Knaresborough, Skipton, and Wakefield. The river is crossed by a handsome stone bridge; on the left side of which is a wear made for the purpose of drawing off the stream for supplying several mills, which are employed in grinding corn, in pressing rape-seed for oil, and for rasping log-wood. On the opposite side of the river, at a little distance from the town, there is a mineral spring called Boslin Spa, where a neat village with inns and other accommodations for visitors has of late years arisen.

Cawood, a small town 9 miles south of York, stands on the banks of the Ouse, which is navigable, and has a good ferry here. Near the town are the ruins of an ancient mansion built by Cardinal Wolsey.

Settle is a market-town 49 miles west by north from York, in the mountainous district, and at an elevation of more than 600 feet above the sea level. A conical limestone rock, 210 feet high, called Castleberg, rises almost perpendicularly above the town, and its projecting top once formed the gnomon of a rude but magnificent sun-dial: the shadow was thrown upon some grey stones, on which the hour lines were marked. Fairs are held here under a charter from Henry III., and large quantities of cattle and hides are sold. The labouring part of the population is employed in cotton mills. The soil in the neighbourhood is exceedingly fertile, but the land is principally employed for grazing, as the prevalence of fogs and rains prevents corn from properly ripening.

About a mile from Settle, to the north-west, is the village of Giggleswick, which contains a free grammar school, with an annual income of above £1000. There are six scholarships at Christ College, Cambridge, for scholars educated in this school. Archdeacon Paley was educated here under his father, who was the head master for nearly 50 years. About a mile north-west of this village is a curious ebbing and flowing well, the water in which has been observed sometimes to rise and fall 19 inches in five minutes. The water is limpid and cold, and free from any peculiar taste. This well is noticed in "Drunken Barnaby's Itinerary." Its action is referred to the agency of a compound siphon formed in the recesses of the limestone rock.

Sedberg, 64 miles north-west of York, is a small market-town situated in the mountainous district of the north-west. It contains a free school founded by Edward VI. The place owes its chief support to the manufacture of iron articles.

Otley, a market-town on the Wharfe, is 10 miles north-west from Leeds, and 26 miles west by south from York. The principal trade of the place is in corn, which is sent to the manufacturing districts, and in cattle and sheep, with which this town supplies Leeds.

Bingley, about 32 miles W.S.W. from York, stands on the left bank of the Aire. The houses are built of stone, and the town consists chiefly of one long street. It contains a well-endowed grammar school. A national school has also been opened, capable of affording instruction to 800 children. The worsted manufacture is carried on in the town and neighbourhood to a considerable extent.

Three miles north-west of Bingley, and 36 miles W.S.W. of York, is Keighley, a very considerable market-town, situated in a deep valley at the junction of two brooks, which discharge themselves about three quarters of a mile below the town into the river Aire. The houses are for the most part built of stone. The parish church, which was rebuilt in 1805, contains a gravestone bearing the date of 1023. Keighley contains a well-endowed free school.

The worsted manufacture is carried on here to a considerable extent, the stuffs being sold in the piece-halls of Halifax and Bradford. Cotton goods are also made. Keighley, in common with almost every town in the Riding, is provided with meeting-houses of various denominations of dissenting Christians. The Leeds and Liverpool canal, which passes near the town, gives the means of water communication with both the east and west coasts.

Skipton, which is 10 miles N.N.W. of Keighley, and 38 miles west of York,

is an old market-town built on a branch of the Aire, and close to the Leeds and Liverpool canal. The houses are of stone. Skipton castle was built by one of the Norman followers of William I. Scarcely any part of the original edifice now remains, but much of the present castle was erected in the reign of Edward II., which part shows less signs of decay than the more modern part of the building. This castle was held during the civil wars by the Earl of Cumberland, and sustained a siege of three years. In December, 1645, it surrendered to the parliamentary forces, and was partially dismantled in 1649, but was afterwards restored so as to render it habitable, and in this state it remains at present.

Skipton parish church was evidently built at different times. Some part appears to be as old as the original castle; but it was principally rebuilt in 1655 by Anne Clifford, Countess of Dorset, &c., as appears from an inscription on it. The church contains several handsome monuments of the Clifford family. The town has a well-endowed grammar-school, founded in the reign of Edward VI. A considerable market for corn and cattle is held weekly in this town: it has also a brisk general trade, which is greatly facilitated by the Leeds and Liverpool canal that skirts the town. Cotton and woollen articles are produced here, but not to any great amount. The vale of Skipton is exceedingly fertile, and contains some of the best meadows in England.

Skipton is the chief town of the district of Craven, or that part of the West Riding which borders on the north-east part of Lancashire. It is a mountainous region, but interspersed with rich valleys and luxuriant pasturage. The Craven mountains are considered among the most foggy and tempestuous in England. Pennygant 2270 feet high; Whernside 2385 feet; and Ingleborough 2361 feet, are the highest of these mountains.

The town of Leeds, which has become the principal seat of the woollen manufacture of England, stands in the Wapentake of Skyrack, on both sides of the river Aire, which is navigable from the Humber up to this town. The water communication is thence continued to the westward by the Leeds and Liverpool canal, by which means the town is placed in the centre of a line of inland navigation which extends across the island, and opens the market of Leeds both to the eastern and western seas. The town is 193 miles from London, and 22 miles south-west of York.

The principal part of the town is built on the slope of a hill, which rises from the north bank of the Aire. The buildings extend a mile and a half along the river from east to west, and the breadth of the town from north to south is very nearly a mile. Some parts of the town are well-built, and in particular the centre and western parts contain several handsome streets and fine buildings; but other parts contain numerous mean dwellings closely huddled together, while the numerous manufactories and dye-houses give to these quarters an appearance of discomfort. The northern and southern parts of the town are connected by means of two substantial bridges, built of freestone, which cross the Aire near the centre of the town, and by two suspension bridges, placed respectively at its eastern and western extremities. These bridges are upon a novel construction. Instead of the chains usually employed, two strong cast iron bows are thrown over the whole space between the two abutments, and from these bows malleable iron rods depend and support the transverse beams upon which the roadway of the bridge is placed. To distinguish this mode of construction from that employed in chain suspension bridges, it has not inaptly been called the *bow and string* suspension bridge. These two bridges were erected in 1827 and 1832 respectively.

Leeds contains seven churches, numerous meeting-houses for various sects of Protestant dissenters, and a Roman Catholic chapel.

The most important of the public buildings in this town are the cloth halls, in which the sales of woollen goods are made by the manufacturers to the merchants. The Mixed Cloth Hall, in which coloured goods are sold, was built in 1758 by the manufacturers. It is a quadrangular building, inclosing an open area; the length of the hall is 380 feet, and the breadth 200 feet. The whole building contains 1800 stands, each of which bears the name of the owner. The White Cloth Hall, in which undyed goods are sold, is of nearly the same dimensions and form as the other, and is subject to the same regulations. Clothiers who have not served a regular apprenticeship to their craft are not allowed to occupy stands in

either of these halls, but another building of smaller dimensions has been provided for their accommodation. The stands in these halls are not nearly so valuable to the proprietors as they were at the beginning of this century. This depreciation has arisen not from any falling off in the quantity of goods produced for sale, which on the contrary has greatly increased, but from a change in the system of the manufacturing business, which is now in a great measure carried on in extensive factories instead of being divided among a great number of clothiers. The number of manufacturers who now attend the Leeds market is not more than one half what it was at the period already mentioned.

Near the Mixed Cloth Hall is an establishment which has been recently built by a private company of proprietors, who have given to it the name of The Commercial Buildings. The ground-floor is occupied by an entrance-hall, a public news-room, and an hotel. The upper part contains a concert room and numerous offices for brokers, &c., while the basement is used for storing wine and spirits. The Leeds Literary and Philosophical Society has also erected a handsome stone hall in which its meetings are held.

The manufacturing industry of Leeds is not confined to the production of woollen goods. The town contains several large establishments for flax spinning, of which branch of the linen trade it is a principal seat, together with glass-houses, potteries, and some very considerable factories for making steam engines, and other machinery.

Leeds contains a well-endowed free grammar-school, in which instruction is given in classical and mathematical knowledge to "all such youths and children as resort thereto." The town is also provided with a large and well-conducted infirmary, and with other institutions for relieving the sick and aged poor.

The inhabitants have been scantily supplied with bad water from the river Aire, but a new water company has been recently incorporated to meet this deficiency by a large supply of pure water brought from some distance in the neighbouring country. A commodious building was erected in 1820, containing public baths: the streets and shops are well lighted with coal gas.

Leeds was incorporated as a borough by Charles I. in 1626. It received a second charter from Charles II. in 1661, and a third from James II. in 1684. This last was set aside in 1689 by William and Mary, and the town was then governed under the charter of 1661, confirmed by William and Mary. Under the Municipal Corporation Act the town council consists of 16 aldermen and 48 councillors; and the borough is divided into 12 wards.

By the Reform Act the town was made a parliamentary borough, which now sends two burgesses to parliament, chosen by the 10*l.* householders resident within the limits of the borough, which extends 7¼ miles from north to south, and rather more than 7½ miles from east to west.

Bradford, in which the manufacture of worsted and stuff goods is principally conducted, is in the wapentake of Morley, and in the very heart of the manufacturing district of Yorkshire, being placed almost centrally between Halifax, Leeds, Wakefield, Dewsbury, and Huddersfield It is 32 miles W.S.W. of York. The town, which is of moderate size, has a very neat appearance, the houses being built of stone, which is found in the neighbourhood. The want of a navigable river has been supplied by a branch cut from the Leeds and Liverpool canal near Shipley, which is carried into the heart of the town of Bradford. By this means the town possesses every facility for the conveyance of goods to either coast, and to all parts of the kingdom.

The parish of Bradford, which is 15 miles long, with an average breadth of four miles, and contains nearly 40,000 acres, is beautifully situated in a level tract at the junction of three extensive valleys. Coal is found in great abundance in the neighbourhood, and iron-stone was raised for many years in sufficient abundance for the supply of very extensive furnaces, but it has latterly failed, and the works are stopped in consequence. The parish church was built in the reign of Henry VI., upon the site of a more ancient religious edifice. A second church has been lately built; and, besides these, Bradford contains several meeting-houses for dissenters.

The manufacturers of Bradford have a building which they call The Piece Hall, for the sale of their goods. This building, which is 144 feet long and 36 wide, is divided into two stories, of which the upper one is used for selling

worsted yarn, and the other for the manufactured pieces. There are several populous and thriving villages round Bradford, in which the combing of wool and the conversion of the yarn into stuffs is extensively carried on as a domestic manufacture.

The Bradford grammar-school was chartered and endowed by Charles I., and enjoyed at one time a considerable reputation. It is one of the 12 schools that send candidates for Lady Elizabeth Hasting's exhibitions at Queen's College, Oxford.

From the account of this place given by Leland in the reign of Henry VIII., it appears to have then been engaged in the woollen manufacture. It is now a flourishing place; the population in the last ten years has nearly doubled, and buildings are fast increasing. The neighbourhood presents a succession of villages along all the principal roads with very little interruption.

Bradford sends two members to parliament. The district to which the elective franchise extends comprises the townships of Bradford, Manningham, and Bowling, with the hamlets of Great and Little Horton.

The town of Halifax is situated in the Wapentake of Morley, 37 miles south-west of York. It is built on the south-eastern declivity of a gentle eminence, but being enclosed by hills it has the appearance of being in a valley. The parish of Halifax, which contains four chapelries and 19 townships, is one of the largest and most populous in the kingdom. The soil is naturally sterile, and Camden observes that in 1574 it was so unproductive that "the parish contained more human beings than beasts of every description." So much has, however, since been done by improved methods of husbandry, that the land is now in a good state of cultivation, and is stocked in proportion to the wants of its dense population.

Halifax has long been noted for its woollen manufactures. In the beginning of the 15th century this branch of industry was prosecuted here. The origin of the town is uncertain. The most ancient record in which the name is mentioned bears date in the early part of the 12th century, and is a grant of the church made to Earl Warren by the lord of the manor. The town was garrisoned by the parliamentary forces during the civil war in the reign of Charles I. An obstinate battle which took place in its immediate vicinity adjoining the road to Wakefield has given to the spot the name of *Blood Field*, which it still retains.

The parish church of Halifax is a large structure, 192 feet long and 60 feet wide within the walls. It is said to have been built in the reign of Henry VI. There are in the parish another church of recent erection and 12 episcopal chapels, the curates to which are appointed by the vicar; besides several dissenting meeting-houses.

The river Calder passes within a mile and a half of the town at a place called Salter's Hebble, whence merchandise is sent to Hull and to London; and at Sowerby bridge, two miles west of the town, is a wharf where goods are shipped for Rochdale and Liverpool by the Rochdale canal. In addition to its staple article, cotton is manufactured here to a considerable extent. The woollen manufacturers of Halifax, as well as those of Bradford and Leeds, have erected a piece hall for the sale of their goods. It is a large, quadrangular building, three stories high, and containing 315 separate apartments, all of which are fire-proof.

The inhabitants are supplied with good water from two springs, which rise about a mile north-west from the town.

Halifax contains an endowed free grammar-school, and several other charitable establishments for educational and other purposes. The town exhibits all the appearances of an active commerce, and the neighbouring country contains numerous villas, the residences of opulent manufacturers.

The town returns two members to parliament under the Reform Act, the elective franchise being shared by the surrounding district within a space of 2¼ miles from east to west, and 1¼ mile from north to south.

Huddersfield, a considerable town in the wapentake of Agbrigg, 37 miles south-west from York, is one of the principal market-towns in this Riding, and possesses local advantages for manufacture in its coal, and in a good supply of water power for mill-sites. The town is one of the principal seats of the woollen trade of England, and in addition to its natural advantages possesses ample facilities for distributing the products of its looms. Sir John Ramsden's canal, which commences close to the town at the south, passes near to Wetherby, and is united with the Aire

and Calder navigation at Cooper's bridge: a communication is thus opened with the eastern coast, while the Huddersfield canal forms a junction with the Ashton and Oldham canal near Ashton-under-Line, whence the navigation to Manchester and Liverpool is uninterrupted.

The sales of woollen manufactured goods are made in a large building or hall in the same manner as in Leeds. The industry of the place is not, however, confined to this particular branch, several cotton factories having been established here.

Huddersfield is of Saxon origin, and is said to owe its name to a leader of the name of Oder or Hudder, who settled on the spot. The country is not naturally productive, but the proximity of a populous town has led to improvements in agriculture, and the consequent amelioration of the soil. The town and its neighbourhood are said to be particularly healthy. Some sulphureous and chalybeate springs are found in the parish.

The town contains two churches, two Methodist chapels, one of which is the largest in the kingdom, and several meeting-houses for different sects of dissenters. The streets are well paved and lighted.

Huddersfield returns one member to parliament, who is chosen by the 10*l.* householders resident in the township.

Saddleworth is a very populous place at the south-western extremity of the Riding, near the borders of Cheshire and Lancashire, and 47 miles south-west of York. It is situated in a wild and bleak country, which, however, is considered healthy. The inhabitants are chiefly employed in the manufacture of woollen cloths, kerseymeres, and shawls. The Huddersfield canal passes through the middle of the town.

Dewsbury, eight miles S.S.W. from Leeds, and 28 miles south-west from York, is a market-town of great antiquity, standing at the foot of a hill near the river Calder. A considerable manufacture of blankets and carpeting is carried on in this town. The place contains two endowed free-schools, in which more than 100 children are taught.

Wakefield, in the wapentake of Agbrigg, 25 miles south-west from York, is built on the left bank of the river Calder; the streets are regular and spacious, and the houses are for the most part well-built and lofty. This town is of great antiquity: many Roman coins and implements which have been found here show that it was a Roman station.

The parish church of Wakefield is a very ancient building, the spire of which is said to be the highest in the county. The date of its foundation is uncertain, but is known to be very remote, as in 1329 Godfrey Plantagenet confirmed to the monks of Lewes, in Sussex, the grant of 60*s.* yearly from its revenues, previously given by Earl Warren, and the original building is supposed to have been erected in the reign of Henry III. A great part of the church was rebuilt about a century ago, and the principal portion of the remaining ancient structure was restored at a more recent date. St. John's church, near the north-western entrance to the town, is a modern erection; and besides these religious edifices there are meeting-houses for various sects of dissenters.

Wakefield contains a free grammar-school, from which there are three exhibitions to the universities, each of which is of the annual value of 70*l.* The town has several other endowed charities, by one of which 106 poor children are clothed and educated. A proprietary school on a large scale has also been recently established in the town.

The south entrance into Wakefield is over a bridge which crosses the Calder, and which was built in the reign of Edward III. In the centre of this bridge is a chapel, which projects from the east side: the architectural embellishments of this building are exceedingly fine. It is said that this chapel was built by Edward IV., in memory of his father, Richard, Duke of York, who fell in the battle of Wakefield. The pauper lunatic asylum for the Riding was erected a few years ago in this town.

Wakefield has a very considerable trade in corn and in wool. Large quantities of woollen cloths are manufactured in the town and neighbourhood, and the business of the place is augmented by its containing the principal establishment of the company for improving the Aire and Calder navigation.

This town was enfranchised by the Reform Act, and sends one member to the House of Commons. The parliamentary borough extends nearly two miles, both from east to west and from north to south.

Pontefract, in the wapentake of Osgoldcross, and 20 miles S.S.W. from York, is a very ancient borough, which in the time of the Saxons was called Kirkby. The name is said to have been changed by De Lacy, who became proprietor of the town after the Norman conquest, and who gave it the name of his native town in Normandy. The castle was built by this nobleman, and was completed in the year 1080. Richard II., according to the common story, was murdered within its walls; and five men of note were put to death here without trial in 1483 by order of Richard III. This fortress long held out against the parliamentary forces in favour of Charles I. It sustained three sieges, the last of which was for some time conducted by Cromwell in person. After its capitulation in March, 1649, it was demolished by order of parliament. Scarcely a vestige of it now remains.

The town, which stands on rising ground, near the confluence of the Aire and the Don, is clean and airy, and is principally composed of three streets disposed in the form of the letter Y.

The parish church is old enough to have been mentioned in a charter dated in the reign of Henry I.; little of the original building of that date, however, exists, since it has been completely modernised by additions and repairs. Dissenters of different denominations have also places of worship in this town. Pontefract has a free grammar-school, and several other charitable institutions. It is not a manufacturing town. Large quantities of fruit and vegetables are raised in the vicinity, and sent to the neighbouring towns of Leeds and Wakefield.

Pontefract, under the Municipal Corporation Act, has a council of four aldermen and 12 councillors. It returns two members to the House of Commons: the parliamentary borough comprises, in addition to the borough of Pontefract, the townships of Tanshelf, Monkhill, Knottingley, and Ferrybridge, covering a space of six miles from east to west, and three miles from north to south.

Selby, a market-town on the right bank of the Ouse, 12 miles south of York, was a place of some note before the Norman invasion. A handsome wooden bridge has been built across the Ouse. This bridge, although it weighs 70 tons, can be opened and shut in one minute for the passage of vessels. By means of a canal, which has been cut from the Ouse to the Aire and Calder navigation, a communication is opened with Leeds, and Selby has in consequence become in a great measure the port for the West Riding. Upwards of 800 vessels with cargoes clear at the custom-house yearly. Steam-packets pass daily between Selby and Hull. Considerable quantities of flax and of weld for the use of dyers are raised in the neighbourhood. There is, likewise, a railway connecting the towns of Leeds and Selby. Its whole length is 19 miles, seven furlongs.

Thorne is a market-town, 25 miles south from York, on the right bank of the Don. It is a place of considerable trade, and exhibits signs of improvement. Thorne has a grammar-school endowed by Edward VI.

The borough of Doncaster is 30 miles south by west of York, on the south bank of the river Don. The air of this place is considered pure and healthy; the streets are clean and airy, and many of the houses are handsome. Altogether, Doncaster is one of the most beautiful towns in the kingdom The great north-road, the Roman Watling-street, from London to Edinburgh, passes through Doncaster, and the trade of the town is somewhat benefited by that circumstance. St. George's church is a large and elegant cruciform structure, standing on the site of a castle near the banks of the Don. It contains an ancient stone font, supposed to be of Saxon sculpture.

Doncaster contains a grammar-school, on which the corporation has engrafted an English school, to which it contributes 100*l.* annually. In the neighbourhood of Doncaster is the Yorkshire Institution for the deaf and dumb, which is both a school of industry and instruction, and in all respects very well conducted. There are numerous other establishments for education; and several libraries. The parish church of St. George has a valuable library, which is used by all the inhabitants. The town has numerous Charities.

One of the largest corn-markets in Yorkshire is held weekly in the town, and for about two months from the beginning of June there is also a weekly market for the sale of wool, which is well attended.

The town of Doncaster is celebrated for the races, which are held there annually in the month of September. The St. Leger stakes, which are

then run for, excite an interest among sporting men throughout the kingdom, and Doncaster during the race week is always crowded. The race-ground is excellent, and is kept in order at the expense of the corporation. The corporate revenue is considerable, and has been employed in lighting and paving the town, in providing an efficient police, and in carrying forward improvements. The principal public buildings are the mansion-house, the town-hall, the gaol, which is on an improved plan, a theatre, and an elegant stand on the race-ground, which was built at the expense of the corporation. Under the Municipal Act the town council consists of six aldermen and 18 councillors.

Barnsley, 34 miles south-west by south from York, is a populous market-town, in which various branches of the linen manufacture are extensively carried on. It is said that the value of linen yarn and cloths annually sent from Barnsley amounts to nearly a million of money; more than 3000 looms are employed in the town and neighbourhood. The town also contains extensive iron foundries, and there are some productive coal mines in the vicinity, the seams in which are from 10 to 12 feet thick. The Barnsley canal connects the town with the river Calder below Wakefield.

Sherburn, 13 miles S.S.W. of York, on the road from Doncaster to York, had formerly a palace in which the archbishops of York resided, but it is now entirely demolished. A grammar-school and hospital were founded here in 1620 by Robert Hungate; there are four exhibitions to St. John's college, Oxford, attached to this school.

Aberford, 13½ miles south-west of York, is a small market-town consisting chiefly of one long, straggling street; the houses are mostly built of stone. Near this place, on the banks of the Cock, are the remains of an old fortification called Castle Cary.

Tadcaster, 8½ miles south-west of York, is on the south side of the Wharf, an inconsiderable rivulet in dry weather, but which becomes a large stream after heavy rains. A very handsome bridge over the river was built, it is said, out of the ruins of an ancient castle which formerly stood here. Tadcaster is a neat, well-built town. It is a place of great antiquity, and is supposed to have been the Calcaria of the Romans. It contains a free-school and an hospital founded by Dr. Oglethorpe, bishop of Carlisle. In the vicinity is the field of Towton, in which the sanguinary battle was fought which placed Edward IV. on the throne of England.

Rotherham, a considerable market-town, six miles north-east from Sheffield and 39 miles S.S.W. of York, is situated on the banks of the Rother, near its confluence with the Don. The town is irregularly built, the houses are of stone, and the streets narrow. A stone bridge which crosses the Don at Rotherham has a chapel on it, which is now used as a dwelling for poor persons. The parish church, built in the reign of Edward IV., is a large and handsome edifice. Rotherham likewise contains various chapels for dissenters. There is a free grammar-school, and another charity-school founded by the late Thomas Hollis, in which from 20 to 30 children are taught gratuitously; there are also several other charities within the town for educational and other purposes.

Rotherham has a considerable trade in coals and corn: and twice in each month has a well-frequented fair for the sale of cattle, sheep, and pigs. The facilities for water-carriage are very great: it has communication with the Aire and Calder navigation by means of the river Don, which is navigable as far as Tinsley, beyond Rotherham. The hamlet of Masborough, in the parish of Rotherham, contained until lately a very extensive iron-foundry, in which the plates were cast for the construction of the Southwark bridge; these works are now discontinued. In this hamlet there is a college for the education of twenty-five young men intended for the ministry in connexion with the Independent Dissenters.

Eleven miles east of Rotherham is Tickill, a small market-town on the borders of Nottinghamshire. This place contains a large, handsome church, with a beautiful lofty tower; the chancel contains an inscription bearing the date of 1236. There are likewise the ruins of a castle which was taken by the parliamentary forces after the battle of Marston-moor, and, in common with many other fortresses, was shortly afterwards destroyed by order of the parliament. In a deep valley on the west of the town are the ruins of an ancient priory founded in the reign of Henry III.

Sheffield, one of the most important manufacturing towns in the kingdom, is situated in the wapentake of Strafforth

and liberty of Hallamshire, 45 miles S.S.W. of York, at the confluence of the Don and the Sheaf, from which last mentioned stream it takes its name. There is a stone bridge over each of the rivers.

Sheffield is a very ancient town, and is said to have existed before the Roman invasion. There is some doubt as to the time when the castle was built. Queen Mary of Scotland was confined here from the end of 1570 to September, 1584. In the conflict between Charles I. and the Parliament Sheffield sided with the latter. At an early period in the war the castle was taken by the royalists, and remained in their possession until 1642, when it surrendered to the parliamentary forces after a vigorous siege. Six years afterwards this fortress was demolished by order of Parliament, and scarcely any vestiges now remain of it.

About the close of the thirteenth century various iron manufactures, such as knives and arrow-heads, were made at Sheffield. From time to time fresh articles were added to the list of its productions, but for a long time the trade of the town was inconsiderable. The first approach which was made towards the prosperity which it has since attained, was in 1751, when the river Don was rendered navigable to within a few miles of the town. Before that time goods were conveyed to London and other markets on the backs of horses. In 1819 a canal was opened which connects the town with the river at the point to which it is navigable.

The invention of plated ware was made at Sheffield about the year 1740, but it did not all at once attain to importance; and it was not until 1758 that the art was applied to anything beyond buttons and other minute articles. In that year an enterprising cutler, Mr. Joseph Hancock, applied plated copper to more important purposes, and made from it teapots, trays, and most of those other articles of domestic use which had before been made of silver only. This manufacture has since formed an important branch of industry within the town. A superior kind of pewter, called Britannia metal, is also manufactured into a great variety of articles of domestic use: at least 650 workmen are employed in this branch of industry. Extensive lead-works are likewise carried on in Sheffield; and the silk and cotton manufactures have been introduced. Some idea may be formed of the extent to which the staple manufacture of the town is carried on, from the fact that upwards of 7700* workmen are employed in making knives, razors, and scissors; more than 700 in making carpenters' and joiners' edge tools; and there are about 600 saw-makers, and 1500 makers of stove-grates and fenders. The number of workmen employed in the silver and silver-plated manufactures is about 900.

Sheffield contains nine churches. The most ancient of them, built in the reign of Henry I., is 240 feet long from east to west, and 130 feet wide from north to south; four of the churches have been built by the aid afforded through the parliamentary commissioners employed for the purpose of promoting the building of churches throughout the kingdom. The Dissenters in Sheffield are a numerous body, and have about 25 meeting-houses. There is also a Roman Catholic chapel.

Sheffield has numerous local charities, among which are several schools. The Sunday-schools established in the town receive upwards of 10,000 children. There is also a free grammar-school. The annual income of those charities, which were inquired into by the charity commissioners, amounts to more than 4000*l*.

There is no gaol in Sheffield, and persons accused of crimes are sent either to the Wakefield House of Correction, a distance of 24 miles, or to York Castle, which is 57 miles distant by the road.

Until recently the inhabitants have been scantily supplied with water. The town is well lighted with gas. The population of Sheffield has doubled since the beginning of this century, and this rapid rate of increase appears to be still going forward; upwards of 600 new houses were built and inhabited in the course of the year ending with June, 1832.

The master-cutlers of the town were incorporated by Act of Parliament in 1624, under the title of "The Cutlers of Hallamshire." The corporation consists of a master-cutler, two wardens, six searchers, and 24 assistants; the rest of its members are called "The Commonalty."

Sheffield sends two representatives to the House of Commons. The par-

* "Tables of Revenue, Population, Commerce, &c., from 1820 to 1833."

liamentary borough is co-extensive with the parish.

Population of the city of York and of the market-towns of the West Riding of Yorkshire.

York city and ainsty	34,461
Leeds	123,393
Selby	4,600
Cawood	1,173
Sherburn	3,068
Aberford	825
Tadcaster	2,855
Wetherby	1,321
Knaresborough	10,214
Boroughbridge, Aldborough	2,447
Ripley	1,219
Ripon	14,804
Kettlewell	673
Sedberg	2,214
Dent	1,840
Settle	1,627
Skipton	6,193
Gisburne	2,306
Otley	10,163
Keighley	11,176
Bingley	9,256
Bradford*	76,996
Halifax†	109,899
Dewsbury	19,854
Wakefield‡	24,538
Huddersfield§	31,041
Barnsley	10,330
Penistone	5,201
Sheffield‖	91,692
Rotherham	10,417
Bawtry	1,429
Tickhill	2,084
Doncaster	11,572
Thorne	3,779
Snaith ¶	8,530
Pontefract	9,254
Harrowgate and Bilton	2,812
Saddleworth with Quint	15,986

The limits of the North Riding may in great part be understood from the general description already given of the boundaries of the county and of the West Riding. The line of separation from the East Riding begins at the city of York, and runs first north-east and afterwards nearly due east to the German Ocean, which it joins at Filey, 7½ miles south-east of Scarborough.

The face of the country in the North Riding is much diversified. From Scarborough to the mouth of the Tees the coast is rocky and bold, presenting in general a cliff from 70 to 150 feet high; at one point, a few miles to the north of Whitby, it is nearly 900 feet high. The tract called the Eastern Moorlands, occupies a space of about 30 miles from east to west, and 15 miles from north to south. The general character of these moorlands is bleak and dreary, and they contain no trees; but there are some fertile tracts in the depressions of this hilly region which are highly cultivated. Some of these depressions or low tracts contain from six to ten thousand acres. The Hambleton hills form the western boundary of the Eastern Moorlands.

The extensive plain of York has no determinate boundaries, but occupies all the central part of the riding from north to south. With some few interruptions this plain has a general slope from the banks of the Tees on the north to the city of York on the south, where it becomes perfectly flat. In its northern portion this plain is bounded by the Eastern and Western Moorlands. The latter, which form part of the mountain range stretching northward from Staffordshire into Scotland, and now commonly designated by the general name of the Pennine range, differ greatly in their character from the Eastern Moorlands.

The Tees, which rises within the county of Westmoreland, and separates Yorkshire on the north from Durham, is described under the last mentioned county. The Ure, which rises near the borders of Westmoreland, runs through Wensley Dale, collecting several small tributary streams in its course to the south-east; it enters the West Riding about six miles north of Ripon; its further course has already been described.

The Swale rises in the western moorlands on the confines of Westmoreland, runs south east by Richmond, and near to Thirsk, and falls into the Ure about four miles below Boroughbridge.

The source of the Derwent is in the Eastern Moorlands, about four miles from Robin Hood's Bay. It takes a southerly direction nearly parallel to the coast until it reaches the borders of the East Riding, about five miles south-west from Scarborough. It then be-

* The town alone contains 23,233 inhabitants.
† The town only contains 15,382.
‡ Of which the town contains about half.
§ The town alone contains 19,035 inhabitants.
‖ The town itself contains 59,911 inhabitants.
¶ This parish contains 11 townships. The town of Snaith is of no importance.

comes the boundary line between the two ridings as far as Stamfordbridge, 7½ miles E.N.E. of York, passing in its course the town of Malton, to which it is navigable from the Humber for vessels of 25 tons' burthen. Its course is then southerly through the East Riding until it joins the Ouse.

The Esk has its source in the east moorlands, about 20 miles from the coast, to which it flows by an easterly course to Whitby, where it enters the German Ocean.

The Rye, the Dove, and the Severn rivers, also rise in the east moorlands and flow in a south-easterly direction until their united waters join the Derwent, about four miles north-east of Malton. These little streams are all engulphed during their passage through a range of limestone hills, and emerge at their foot, after having been lost for a space of a mile and a half.

The mineral productions of the North Riding are not very abundant. Some beds of lignite occur in the lower oolite, and layers of ironstone and pyrites in the lias. The lignite is worked to a small extent in different parts of the eastern moorlands for fuel, but the quality is indifferent. A copper mine was worked about the middle of last century near Middleton Tyas, and the same metal was discovered about forty years ago at Richmond. Good freestone is found in many parts of the riding, and quarries are worked near Scarborough and Whitby. The most important mineral production of the riding is alum, of which considerable mines are worked near Whitby.

The character of the rocks is much diversified in this riding. The mountainous part in the west, which belongs to the Pennine range, partakes of the characteristics of that range, and is of carboniferous limestone. Millstone grit occurs here, and extends to a little below Darlington, its extreme north-east point; the bounding line from that point is nearly south, but overlaid and interrupted in some parts by the new red sandstone formation, which commences at the mouth of the Tees, and extends into the West and East Ridings in an uneven line, which it is difficult to define accurately. The lias formation overlies this, having a curved, uneven boundary; Guisborough and Thirsk are on this rock. The oolite formation, upper, middle, and lower, occupies the remaining part of the riding. The rocks on the coast from Whitby to Scarborough are of the lower; and those south of Scarborough of the middle and upper oolite formation; the cliffs on this part of the coast present fine sections of the oolitic series.

The soil of the riding differs very much in the different localities. In the eastern moorlands it consists for the most part of black earth upon clay; of sand intermixed with stones; and of a light loam upon grit-rock. The prevailing soil of the Hambleton hills is loam upon limestone rock. The soil of the western moorlands is in general more fertile than that of the eastern moorlands, although the elevation of the western is greater. Wensley Dale, which intersects the western moorlands, is extremely fertile, and the soil of Swale Dale, further to the north and near the borders of Westmoreland, is hardly inferior to it. The land in the vale of York is of various degrees of fertility and composition; the prevailing soil is a clayey loam, which is surpassed in fertility by few parts of the kingdom.

The cattle most generally bred in the North Riding are the short-horned, with some long-horned cattle: a mixed breed between the two is used near the borders of Westmoreland. The beasts bred in the eastern part of the riding are very large and well formed, while those on the western moorlands are small. The sheep bred in the northern part of the plain of York and in the district of Cleveland, are large, bony animals, weighing often from 120 lbs. to 160 lbs. Their wool is generally dry and harsh, but abundant. Much attention has been paid of late to the improvement of the breed. Considerable numbers of coach and saddle-horses are bred in the North Riding. The Cleveland breed are full of bone, and while active are well qualified for heavier work. A great part of the farming stock of the western moorlands consists of horses which, although not so large as the Cleveland breed, are strong, hardy, and useful animals.

The climate of this part of the county, owing to the variety of surface and aspect, is much diversified. The coast is cold and bleak, and the parts of the plain of York which are near the moors have the same character. The other parts of the plain are temperate and favourable to the growth and ripen-

ing of grain. On the moorlands the crops are less certain, and it sometimes happens that the grain is covered with snow before it is taken from the field. The western moorlands receive more rain than the eastern, but the North Riding generally is characterised by dryness throughout the year. Vegetation is usually backward, and it is not uncommon to experience slight frosts, even in the beginning of June.

The North Riding of Yorkshire is divided into 13 wapentakes, viz.:—

Allerton; Birdforth; Bulmer; Gilling, East; Gilling, West; Halikeld; Hang, East; Hang, West; Langbargh, East; Langbargh, West; Pickering-Lythe; Ryedale; and Whitby Strand.

It has 19 market-towns, six of which are parliamentary boroughs. Three of them return each two members, and the other three one member each.

New Malton is a populous borough, situated at the south-east boundary of the riding, 17 miles north-east of York. It stands on the right bank of the river Derwent, which here forms the boundary between the North and East Ridings; this river was rendered navigable to the town under an Act passed in the reign of Queen Anne.

Malton was a Roman station, as appears from the many ancient roads which lead to it; six of which may be traced. Urns containing Roman coins and many pieces of Roman pottery have been found here. The name of the place was anciently *Camulodunum*, which was abbreviated by the Saxons to *Meldun*. The town was burnt in the reign of Henry I. by Archbishop Thurston, when he laid siege to it to dislodge the Scotch. It was on the occasion of its being rebuilt after this calamity that it received the name of New Malton.

The town is about half a mile long. A handsome stone bridge crosses the Derwent and connects the borough with the town of Norton, an increasing place in the East Riding, which abuts on the opposite bank of the river.

Malton contains three churches, besides several meeting-houses for dissenters. It has also a handsome suite of public rooms, to which a subscription library and news-room are attached.

Considerable quantities of agricultural produce are conveyed hence by the Derwent to Hull, Leeds, and Wakefield, and even to London. The town has a weekly market, and five annual fairs for horses and cattle, which are much frequented. Malton is a polling place for the North Riding, and itself returns two members to Parliament.

Pickering, an ancient market-town in the wapentake of Pickering-Lythe, is nine miles north of New Malton, and 24 miles north-east from York. The town is built on an eminence, at the foot of which runs a brook called Pickering-beck. The ruins of a very ancient and extensive castle stand near the western extremity of the town; part of the ground within the walls is now cultivated as a garden. This castle was besieged by the parliamentary forces during the civil war. The town formerly sent two members to Parliament, but it has long ago lost that privilege. It belongs to the duchy of Lancaster, and comprises in its jurisdiction several neighbouring villages, the whole forming what is called "the Honour of Pickering." The church is a very old building with a lofty spire. There are several meeting-houses in the town. A railway, about 23 miles long, connects this town with Whitby.

Scarborough is a sea-port and borough by prescription, 38 miles north-east of York, in the wapentake of Pickering-Lythe, on the east coast, and open to the German Ocean. The origin of this place is not known, but its name, evidently of Saxon derivation, from *scear*, a rock, and *burg*, a fortified place, would seem to prove that it is of very ancient date. The town is built on the margin of a semicircular bay, from which it rises in the form of an amphitheatre, a circumstance which gives to it a picturesque appearance. To the east are the ruins of an ancient castle, which are a considerable ornament to the town. These ruins stand on a promontory 300 feet above the level of the sea, on the side towards which it is completely inaccessible, while its western aspect commands the town and bay. Scarborough castle was built in the reign of Stephen by William-le-Gros, Earl of Albemarle and Holderness. During the civil wars this castle was twice besieged and taken by the parliamentary forces. It afterwards shared the fate of other fortified places, and was dismantled by order of the House of Commons. In 1745 this fortress was partially restored, and 100 pieces of ordnance were mounted on its ramparts. At a later period barracks were erected

on the site, and three batteries were formed for the protection of the town and harbour, two of them on the south, and the other on the north side of the castle-yard.

Scarborough harbour is the only port of any consequence on the east coast between the Humber and Whitby, and is used as a place of shelter from the easterly gales which prevail on this coast. In the reign of Henry III. measures were taken for improving the port, and certain duties on the shipping frequenting the place were granted to the inhabitants to provide funds for such improvements. Measures of the same kind were resorted to in the reign of George II. for enlarging the pier and harbour, on which occasion the pier was extended to the length of 1200 feet.

The town is a place of great resort during the summer for sea-bathing. Scarborough possesses a further attraction for visitors in its mineral and medicinal springs, which enjoy a high reputation for the cure of various disorders. There has been a considerable increase of buildings on all sides of the town within the last five years, particularly on the York road towards the village of Falsgrave.

The parish church, which was originally a Cistercian convent, must have been a large and handsome structure, if we may judge from the ruins on its eastern side. A new church has recently been erected towards the southwestern extremity of Scarborough. Chapels and meeting-houses are maintained by catholics and the various denominations of protestant dissenters.

The commerce of the place is confined to the export of agricultural produce, and the import of foreign and colonial goods for the consumption of the town and neighbourhood. Ship-building has been carried on here to some extent; and manufactures of rope and sailcloth have likewise been established, but these branches of industry have lately very much fallen off. The number of vessels belonging to the port in 1832 was 168, of the aggregate burthen of 27,734 tons.

The borough is co-extensive with the parish, consisting of the two townships of Scarborough and Falsgrave. It sends two representatives to Parliament, and is a polling place for the North Riding.

Whitby, a town of some commercial importance, in the wapentake of Whitby Strand, stands at the mouth of the river Esk, where that stream discharges itself into the German Ocean, 44 miles N.N.E. of York. The town occupies two opposite declivities, one facing the east and the other the west, the two parts being connected by means of a drawbridge across the Esk, the mouth of which river forms the harbour.

The origin of Whitby dates as far back as the seventh century, when an abbey was founded here by Oswy, King of Northumberland. This abbey was burnt during the Danish invasion, but was rebuilt after the Norman conquest, and continued to flourish until the general dissolution of the monasteries. According to Bede, the Saxon name of the place was *Streanshalh*, or the Bay of the Watch Tower. It was afterwards called *Presteby*, or the Dwelling of Priests; then *Hwytby*, and subsequently *Whiteby*, which has been further corrupted to its present name.

The appearance of Whitby is that of a wealthy sea-port town. The largest and most respectable portion of the houses are on the western side of the river. That part of the town which lies within the ancient township of Whitby, which it completely occupies, is very closely built, and the streets are very narrow; but the houses in the contiguous township of Ruswarp on the west bank of the river, and extending in a S W. direction from Whitby, are of a superior description, and in airy situations.

Whitby was a very inconsiderable place at the close of the reign of Elizabeth, soon after which time it rapidly acquired consequence through the discovery of the alum mines, which have since furnished the staple trade of the town. The first alum-works were established at Guisborough, 22 miles from Whitby, when this town became the shipping port for their produce. In 1615 another alum-work was begun within three miles of the town, the vicinity of which abounds with alum rock, and the manufacture has been carried on uninterruptedly to the present time. Ship-building has also for many years been actively carried on in the town; and in the year 1832 there were 258 vessels of the aggregate burden of 41,347 tons registered as belonging to the port. The whale fishery has been carried on during the last 60 years from this place.

The harbour of Whitby, which is very

much exposed to gales from the east, has been greatly improved under the provisions of two Acts of Parliament, passed in 1702 and 1723 for the building of a pier and quays. The harbour is now perfectly secure, with a good anchorage in 15 to 18 feet water. An inner harbour has also been constructed behind the drawbridge over the Esk already mentioned, and on both sides of this part of the river are ship-building yards and commodious dry docks. The east pier extends 645 feet, and the west pier 1860 feet into the sea. The entrance to the harbour between the head of these piers is 270 feet wide.

The exports of the place are not considerable: they consist principally of alum and the produce of the whale fishery. But Whitby imports a considerable amount of Baltic produce for the supply of the surrounding district; and the coasting trade carried on from this town is of large amount. The articles exported coastwise consist for the most part of alum, sailcloth, and agricultural produce. A very considerable market is held every Saturday.

The parish church is near the top of the hill on the east side of the town, near the abbey. The architecture was originally Gothic, but it has lost all its ancient form through successive alterations and repairs. The approach to the church from the bottom of the vale is by a flight of 190 stone steps. The town contains also a chapel of ease, and numerous other chapels, one for the use of Roman catholics, and the rest for different denominations of Protestant dissenters.

Whitby is a polling place for the North Riding, and sends one member to Parliament; the limits within which the franchise is enjoyed are co-extensive with the parish, and comprehend the townships of Ruswarp and Hawsker-cum-Stainsacre.

Helmsley, 22 miles north of York, is situated on a gentle inclination sloping towards the banks of the Rye. The houses are mostly built of stone. The church is a very ancient structure; besides which there is a Friends' meeting-house, and a methodist chapel. A charity-school is supported by C. Duncombe, Esq., of Duncombe Park, a handsome mansion-house designed by Vanbrugh, of fine elevation and beautiful proportions. Helmsley was formerly noted for its stately elm trees, from which the place is said to derive its name. The parish of Helmsley is considered one of the largest in the kingdom, being 16 miles from north to south.

Guisborough, already mentioned as the place where the first alum-works of this kingdom were established, is a considerable-town in the wapentake of Langbargh, 42 miles north of York. A magnificent priory was established here early in the twelfth century by Robert de Brus, but a single arch is all that now remains of this building.

The town consists principally of one broad street running east and west, the houses in which are of modern elevation. In addition to the parish church, Guisborough contains meeting-houses for different denominations of dissenters. It has also a school founded under the will of George Venables, a native of the town, in which 200 children of both sexes are now taught according to the national system.

Stokesley, a market-town in the wapentake of Langbargh, 37 miles north of York, is built on the north side of a principal branch of the river Leven. The town chiefly consists of one principal street about half a mile long, most of the houses in which are modern. A weekly market is held on Saturdays. Stokesley is a polling place for the North Riding.

Yarm, or Yaurm, as it is sometimes called, in the same wapentake, and seven miles north-west of Stokesley, is on the border of the county, adjoining Durham, from which it is separated by the river Tees, over which there is here a stone bridge. The town, being built on a low peninsula, is nearly surrounded by the river, which is navigable for five miles above Yarm. It was formerly a place of more consideration than at present; its decline may be attributed partly to several ruinous floods by which it has been visited, and partly to the vicinity of the flourishing town of Stockton-on-Tees.

Richmond, a borough in the wapentake of Gilling West, and the capital of the extensive district of Richmondshire, is built on an eminence which rises rather abruptly from the river Swale, 43 miles north-west of York. Alan Rufus, Earl of Bretagne, who accompanied his uncle William I. to England, and who commanded the rear-guard of the invading army at the battle of Hastings, founded the town and castle of Richmond. The charter under which the Norman earl took possession of this

property is a specimen of the unceremonious and laconic manner in which large estates were in those times transferred to new owners :—

" I, William, surnamed the Bastard, do give and grant to thee Alan, my nephew, Earl of Bretagne, and to thy heirs for ever, all the towns and lands which lately belonged to Earl Edwyn in Yorkshire, with the knight's fees, churches, and other privileges and customs, in as free and honourable a manner as the said Edwyn held them.

" Given from the siege before York."

This grant conveyed a district containing 140 square miles, and comprehending 104 parishes. In choosing a site for his castle, the Earl of Bretagne selected an almost perpendicular rock on the bank of the river. These natural means of defence were strengthened by lofty towers, and walls 11 feet thick, which rendered Richmond castle in those early times impregnable. In the reign of Henry VIII. this fortress, which covered nearly six acres of land, had already fallen into ruin through neglect. The ruins have still a majestic appearance. The great tower, which is about 100 feet high, is one of the most perfect specimens of the Norman keep in England.* The town of Richmond also was once surrounded by walls.

Richmond is a clean and agreeable town ; the streets are well paved, and many of the houses are built of freestone. The town contains two churches, a Roman catholic chapel, and several meeting-houses for Methodists and other dissenters. A bridge over the Swale connects the southern quarter with the suburb of Slogill. Richmond is situated in the midst of an agricultural district, and has the largest corn market within the riding. There are no manufactures, and the town apparently owes its improving appearance to the beauty of its situation and of the adjoining country, which, together with the cheapness of provisions, induces many persons to choose it for their residence.

The corporation of Richmond possesses an annual income arising from landed estates of about 1,400*l*., which sum is expended in lighting, watching, and paving the town, and supplying the inhabitants with water. The town is exempted from the payment of county rates, and the inhabitants are not liable to serve upon juries beyond the boundaries of the borough, except at the county assizes. A court of quarter sessions is held within the town, and a court of record for the recovery of debts not exceeding 100*l*. The ecclesiastical court for the archdeaconry of Richmond is also held within the borough. The free grammar-school has an income of somewhat less than 300*l*. per annum, arising from the rent of land. It has long enjoyed a high reputation among the grammar-schools of England. The town also contains three hospitals for aged persons, and many other charitable institutions. It sends two members to Parliament, and is one of the polling places for the North Riding.

Reeth, a market-town in the wapentake of Gilling West, and liberty of Richmondshire, is situated 8 miles west of Richmond, and 47 miles north-west from York, about half a mile above the confluence of the rivers Arkle and Swale. The town is built on an eminence, and commands a very beautiful and picturesque view.

Some entrenchments in the neighbourhood are supposed to be of Roman origin, some pieces of Roman armour having been found within them ; and in a field called Hallgarth the remains of a house are pointed out which is said to have been the residence of John of Gaunt, who was lord of the manor.

There are some lead mines in the neighbourhood, from which 5000 or 6000 tons of metal are annually extracted, and which give employment to many of the inhabitants of Reeth. The lead of this district is of very great purity, owing to the great care taken in the smelting of it ; and it is accordingly preferred to any other for the manufacture of white lead and for other chemical purposes. A considerable quantity of stockings are also knitted in the town and neighbourhood, and for the most part exported to Holland.

A school was erected here and endowed with 80*l*. a-year by two members of the society of Friends ; the school-room is used on Sundays as a place of worship by members of that society.

Muker, a market-town in the same wapentake and liberty, is 17 miles west by south from Richmond, and 53 miles north-west from York. Muker is a

* The earldom of Richmond and its lands became the property of the crown, when Henry Earl of Richmond ascended the throne under the name of Henry VII. Charles II. granted the site of the castle, with the title of Duke of Richmond, to Charles Lennox, one of his natural sons, in whose family it still remains.

chapelry belonging to the parish of Grinton. The chapel of ease within the town is an old building, having been consecrated in 1580. The grammar-school, which is for the instruction of six poor children, has an endowment of 20*l*. a-year. Besides the weekly market, an annual sheep fair is held in December. Coal, lime, and lead and iron ore are found in the neighbourhood, and about 2½ miles north-west of the town is a cascade formed by the Swale falling over some rocks into a secluded valley.

Hawes, a market-town in the wapentake of Hang West, and liberty of Richmondshire, is 53 miles north-west by west from York. The town is built near the south bank of the Ure, and is nearly surrounded by high lands, which furnish considerable quantities of coal, lead, and lime. The manufacture of stockings is carried on both in factories and as a branch of domestic industry.

Askrigg is a small market-town of great antiquity situated in the centre of Wensley Dale, 15 miles south-west of Richmond, and in the wapentake of Hang West. In its vicinity is some romantic scenery, comprehending several beautiful waterfalls; one of these, Hardowforce, about five miles up the dale from the town, is a perpendicular fall of 99 feet, at the foot of which is a chasm, bounded on each side by large masses of rock, and extending about 300 yards in length. Askrigg is a polling place for the riding.

Middleham, in the same wapentake, is a small market-town on the river Ure, about nine miles south of Richmond, principally remarkable for the extensive ruins of its castle, which was built in 1190. Edward IV. was confined here, when taken prisoner by the Earl of Warwick, and it was the residence of Richard III., when Duke of Gloucester. The building is said to have been dismantled by Cromwell, but there is no historical evidence of the fact.

Leyburn, likewise in the same wapentake, and three miles north of Middleham, is a well-built town, with a considerable weekly market for corn. Lead, coal, and lime are found in its vicinity.

Bedale, 32 miles north-west of York, is situated in a fertile valley; it has a small endowed school, and several charities.

Masham is a pleasantly situated town on the west bank of the Ure, 14 miles south of Richmond. A market is held here every Wednesday. Wool-combing and coarse straw-plaiting are carried on here as domestic manufactures, and there is also a flax spinning factory, which gives employment to many hands. There is a free-school in the town for the education of 30 boys belonging to the parish.

Northallerton, a borough in the wapentake of Allerton, was originally a Roman station. It is situated on the Wiske, 32 miles north by west of York, in a fertile district, which contains a numerous agricultural population. This place was the scene of various conflicts between the English and Scotch. In 1138 a battle, called the Battle of the Standard, was fought in this parish, when the Scots were driven back with great slaughter. In 1318 the town was burnt by Scottish invaders.

The borough sent two members to Parliament in the time of Edward I., but for nearly four centuries afterwards it ceased to exercise that privilege, which it resumed in 1640. The town, which consists principally of one street, is well built, and has a spacious market place.

The town has a grammar-school, and also an hospital for poor aged persons. It also contains the Register-office* for the riding, and a house of correction, which is sometimes occupied by 100 prisoners, from various parts of the county. Northallerton, which is one of the polling places for the North Riding, returns now only one member to Parliament.

Thirsk is a small borough and market-town in the wapentake of Birdforth, in the vale of Mowbray, 23 miles N.N.W. of York. It is built on both sides of a small river called the Cod-beck. That part which is on the east bank is called the old town. The south-western extremity of the town formerly contained a strong castle built in the tenth century. On the rebellion of its owner, Sir Roger de Mowbray, in 1175, this castle was invested by the king's forces, and, being taken, was ordered by Henry II. to be razed to the ground. Its ruins are said to have furnished materials for

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* York and Middlesex are sometimes called register counties, from the circumstance that under various Acts of Parliament all transfers of land by deed and all wills of land in these counties must be registered; and all deeds relating to lands in these counties are void against subsequent purchasers or mortgagees, for valuable consideration, unless such deeds are duly registered before the registration of such subsequent purchasers or mortgagees.

building the church of St. Mary Magdalene, which is a remarkably fine specimen of early architecture. The internal length of the church is 160 feet, and the length of the cross aisle 60 feet.

Thirsk has a weekly corn and fruit market. Large quantities of poultry are reared in the neighbourhood, which are bought up at this market for the supply of Leeds and other manufacturing towns in the West Riding. Some inconsiderable manufactures of coarse linens and saddlery are carried on in the town.

About a quarter of a mile south of Thirsk, but wholly distinct from it, is the village of Sowerby, many of the houses in which are of a superior class, and have an air of neatness and respectability. This place is principally inhabited by persons who have retired from trade.

Thirsk returns one member to Parliament. The election had been conducted for so long a time under the branches of an elm which stood in St. James's Green, "that the memory of man is not to the contrary." On the 5th of November, 1818, this venerable tree was accidentally burnt by some boys who had lighted a bonfire near the spot. Thirsk is also a polling-place for the North Riding.

Easingwold is a small market-town in the wapentake of Bulmer, 12 miles N.N.W. of York, to which city it sends a considerable quantity of bacon and butter, which are afterwards forwarded by water-carriage to London. There is an endowed free-school for boys and girls.

Population of the market-towns in the North Riding of Yorkshire:—

Malton	4,173
Pickering	3,346
Scarborough	8,760
Whitby	11,725
Guisborough	2,210
Stokesley	2,376
Yarm	1,636
North Allerton	5,118
Reeth*	1,456
Richmond	3,900
Muker*	1,247
Hawes	1,559
Leyburn	1,003
Middleham	914
Bedale	2,707
Masham	2,995
Thirsk	3,829
Easingwold	2,381
Helmsley	3,411
Kirkby Moorside	2,324
Askrigg	737
Egton	1,071

* Muker and Reeth are both in the parish of Grinton, which contains 4854 inhabitants.

The East Riding is the smallest of the three divisions of this county. It is bounded by the river Derwent on the north and north-west as far as Stamford-bridge, which is 7½ miles E.N.E. from York; the Humber forms its boundary on the south, and the Ouse divides it from the West Riding on the west. Its eastern boundary is formed by the German Ocean.

The East Riding of Yorkshire has considerable variety of surface, but is not characterised by the same bold features as the other parts of the county. A tract of chalky hills extends through the centre of the riding from north to south, forming part of the district called the Wolds. This district, until about the close of the last century, was a complete waste, being little more than a large rabbit-warren, but since that time the high prices paid for agricultural produce in England have led to such improvement of the soil that it is now for the most part under successful cultivation. To the west of this district is a tract of land reaching to the boundaries of the North and West Ridings, which is called the Levels, a name which is descriptive of its character. The district to the eastward of the wolds, and between the hills and the ocean, is known as the Holderness district.

The principal rivers of the riding are the Humber, the Hull, the Ouse, and the Derwent. The Humber is sufficiently wide and deep to admit ships of any burden to the port of Kingston-upon-Hull, which is situated 20 miles from its mouth; vessels of 150 tons can ascend the Ouse as high as the city of York. At the mouth of the Trent, where the Humber properly begins, it is more than a mile in breadth. It flows from this point with an easterly course as far as Hull, gradually widening to between two and three miles. At Hull it receives the river of that name, and changing its course to south-east discharges its waters into the German Ocean between Spurnhead on the Yorkshire side, and Cleathorpe in Lincolnshire, the mouth of the river being between six and seven miles wide. The whole south bank of the Humber is in Lincolnshire, and its point of junction

with the Trent is at the north-western extremity of that county.

The river Hull has two sources; one among the eastern wolds, and the other near the sea-coast, not far from the small town of Hornsea; the two streams unite near Frodingham, whence the united river flows to the south, past Beverley, and joins the Humber at the town of Kingston, which from this circumstance has received the name of Kingston-upon-Hull; or, more commonly, Hull. The wolds, already described, divide the affluents of the Derwent from those of the Hull, which latter river is the outlet for the waters of that part of the riding which lies between those hills and the sea. The courses of the Ouse and the Derwent are described in the account of the West and North ridings of the county.

A canal or creek, known as Beverley Beck, extends from the river Hull nearly opposite the village of Weel, in Holderness, to the town of Beverley. This canal is under the management of the corporation of Beverley. The Driffield navigation begins at a place called Aike Beck mouth, on the river Hull, about 4½ miles north of Beverley. From the commencement to Fisholme Clough its course is partly along the original line of the Hull river, and partly by cuts made in order to avoid circuitous parts of that river. The remainder of the course from Fisholme Clough to Great Driffield is by a canal 5½ miles long. This navigation is used for conveying coal from the West Riding, and timber, colonial and foreign produce, from Hull to the interior of the East Riding. By the same channel the East Riding sends its agricultural produce to the manufacturing districts.

The Market Weighton canal, which is 11 miles long, runs in almost a direct course south from Market Weighton to the Humber. This canal was constructed with the double object of conveying goods and produce, and of draining the low, fenny lands in its neighbourhood. The management of the canal is vested in commissioners, who are empowered not only to collect tolls for the passing of goods, but also to levy rates on the proprietors of land in respect of the benefit which they receive from the drainage. The Pocklington canal has rather a circuitous course to the south-west from Pocklington to the river Derwent at East Cottingwith. Its length is about 8½ miles: its principal use is to convey coal and manure to Pocklington and the neighbouring country, and to carry back agricultural produce to the manufacturing districts.

A great part of this riding is occupied by the chalk formation, distinguished as the wolds already described. On the west of the wolds the lias rock and middle oolite occur; and a part of the coast, extending from the mouth of the Humber as far as Kingston-upon-Hull on the west, and to near Bridlington on the north, is occupied by the lower tertiary formation.

The soil of the levels is for the most part a light loam with a mixture of chalk and gravel; in some places a stiffer loam appears. The Holderness district consists of an extensive bed of alluvial soil, under which the chalk of the wolds dips and disappears. The face of the country here is more diversified than it is in "the levels."

The natural soil of the wolds consists of light loam upon a substratum of indurated chalk, broken by a great number of deep and sudden depressions. Scattered all over this elevated tract are many round nodules of pyrites, called by the inhabitants of the district *bullets*. There are also many loose fragments of sandstone, which, as they are wholly foreign to the prevailing calcareous earth, have probably been brought here by the action of water.

The climate of the wolds is very variable, and at times is exceedingly severe from the violence of the winds. The north-east wind, which prevails in March, frequently continues through the whole of the two following months, and sometimes even later in the year, a circumstance by which vegetation is greatly retarded. This region is, however, not considered unhealthy. Holderness, from its situation so near to the German Ocean, is exposed to sea fogs.

In almost every part of the East Riding, cattle and horses are bred in considerable numbers. The Holderness or short-horned breed of cattle is remarkable for size and for the abundant quantity of milk yielded by the cows. The horses are hardy, stout, and well-formed animals. The Leicester breed of sheep has been successfully introduced upon the wolds.

The East Riding is divided into seven Wapentakes:—

Buckrose, Dickering, Harthill, Holderness, Howdenshire, Ouse and Derwent, Hull (town and county).

It has 11 market-towns, two of which, Beverley and Kingston-upon-Hull, are parliamentary boroughs, and return each two members to the House of Commons.

The town and county of Kingston-upon-Hull is one of the most considerable ports in the kingdom. If considered with reference to the amount of custom-duties collected, it stands the fourth on the list, coming next after Bristol; but if estimated according to the number and tonnage of ships engaged in foreign commerce which enter the port, it ranks the third in importance, being next to London and Liverpool. The town, which is 33 miles south-east by east from York, stands at the point where the river Hull joins the Humber. The present town was founded chiefly through the personal exertion of Edward I., who gave to it the name of King's town, with the addition *upon Hull,* to distinguish it from Kingston-upon-Thames, and conferred upon it in 1299 a royal charter, by which it was constituted a free borough. In 1326 Hull was fortified, and the place increased so rapidly that in little more than half a century from its foundation, the town was called upon by Edward III. to furnish 16 ships and 466 men towards an armament, to which London furnished only 25 ships and 662 men. It presents a curious picture of the state of society in England at that time, when we find that the inhabitants of Hull were constantly quarrelling with the people of the surrounding country concerning the supply of water to the town, and that the interference of the pope was necessary to prevent the latter from attempting to corrupt the water, and to fill up the canals through which it was supplied.

The fortifications of Hull were repaired, and a castle was built on the east side of the Hull, during the reign of Richard II., when the Scots made frequent inroads into England. The charter granted by Edward I. was renewed by Richard II., and enlarged by the fourth, fifth, and sixth Henrys. Henry VI. constituted the town with its precincts into a county, which comprises the parishes of Hessle, North Ferriby, Swanland, West Ella, Kirk Ella, Tranby, Willerby, Wolferton, Anlaby, and the site of the priory of Haltemprise.

Hull was three times visited by the plague towards the end of the fifteenth century. The malady called the sweating sickness committed great ravages here in 1551. Twenty-five years later the plague again made its appearance, and was soon checked; but after 50 years the pestilence returned, great numbers of the inhabitants fled in terror, while of those who remained 2730 died: the loss altogether was computed at one-half of the whole population. But a few years restored the loss; the trade of the town returned, and brought back more than its former state of prosperity.

At the commencement of the disputes between Charles and the Parliament, Hull, which then contained a large magazine of arms and ammunition, declared for the Parliament, and admitted a governor nominated by that body. An unsuccessful attempt of the king in April, 1642, to gain admittance with his forces into the town was one of the apparent and immediate causes of the civil war, which commenced with an attack upon Hull, in which the royal army was unsuccessful. In the following year the town was again besieged by the royalists during six weeks, but was defended with equal success; and it continued in possession of the parliamentary party to the end of the contest.

The village of Sculcoates to the north of Hull, and on the west side of the river, was formerly distinct from the town, but now forms a considerable part of it, and is not distinguishable from the rest. It is of higher antiquity than Hull, being mentioned in Domesday Book as one of the lordships of Ralph de Mortimer, who accompanied William I. from Normandy. The parish of Sculcoates formerly was not included in the county of Hull, but is so now. It contains a sessions-house, in which are held petty sessions by the magistrates of the East Riding of the county of York.

At about a mile from the Humber, the Hull and Selby Railway crosses the canal by an iron bridge over it. The Hull and Selby Railway, which was begun in 1838, and expected to be completed in 1840, is 31 miles long: it commences at the Dock Quays in the town of Hull, runs nearly parallel to the Humber and the Ouse, and terminates at Selby by a bridge over the Ouse, where it joins another railway from Selby to Leeds, and forms a link of the great chain of railway communication between Liverpool and Hull, or between

the Atlantic and the German ocean; for its length, the Hull and Selby Railway is considered the most level in the kingdom.

The parish of Drypool, which is on the east side of the Hull river, is now in the county of Hull, with which it is locally connected by means of a bridge called the North Bridge. On a line with this bridge is a continuous street of superior houses, three quarters of a mile long, and many other buildings are erected between this street and the Humber. The improvements which are going forward in this quarter render it probable that in a few years the buildings of Drypool will be as little distinguishable from the ancient town of Hull as those of Sculcoates are at present. Both these parishes were included within the limits of the parliamentary borough by the Boundary Act.

The ancient town of Hull is unequally divided into two parishes, Holy Trinity and St. Mary's, of which the first is by much the larger, and contains three churches. Trinity church has been in existence since the first founding of the town; its chancel and transepts are built partly of brick, and are supposed to be the most ancient specimen of brick building in England, next to the Roman remains. This church was originally a chapel of ease to Hessle parish, but was separated from it, and the parish of the Holy Trinity made a vicarage by act of parliament in 1661. This church is said to be the largest parish church, which is not collegiate, in England. It is a stately and well-proportioned building, in the Gothic style, but a great part of its ornaments have been destroyed by time. The church of St. Mary was built in 1333. It was partially destroyed by Henry VIII., who made use of the materials for constructing block-houses on the east bank of the Hull river. A considerable addition was made to the building in 1570 by the parishioners, and its present steeple was erected in 1697. St. Mary's, which was previously a chapelry attached to Ferriby, is now a separate parish. St. John's church, in Trinity parish, is a modern building, having been erected to meet the wants of the growing population in 1792. It is a neat, simple, and commodious brick edifice. The officiating minister is a curate appointed by the vicar of Trinity parish.

Sculcoates has a church dedicated to St. Mary, which was rebuilt in 1760, and another called Christ church, which was built under an act of parliament obtained in 1814, and consecrated in 1822.

Besides these churches, Hull (including Sculcoates) contains 18 chapels and meeting-houses for Roman Catholics, and various denominations of Protestant dissenters: there are also two synagogues.

The inhabitants of Hull support many charitable institutions. The most important of these, the Trinity House and Hospital, was established in 1369, for the relief of decayed seamen and their widows. The funds which were originally raised by subscription have since been greatly increased by legacies, and are aided by the contribution of 6*d*. per month from every seaman sailing from the port. This institution is a corporate body: the management is in the hands of 12 elder brethren, six assistants, and an unlimited number of younger brethren, most of whom are chosen from among the merchants of Hull. The details of the business are managed by three of the elder brethren, two of whom are called wardens, and by two younger brethren called stewards, who are annually elected for the purpose. In addition to the charitable objects of this corporation, it exercises the right under its charter of licensing pilots, of placing buoys and beacons to facilitate the navigation of the Humber, and of settling disputes between the masters of ships and their seamen. The building in which the business of this corporation is conducted was built in 1457, and rebuilt in 1753. Besides the council chamber and offices it contains apartments for 34 pensioners, a chapel and a museum of paintings and curiosities. A marine school is attached to the institution, in which 36 boys are maintained, and clothed, and instructed in navigation. The income of the corporation from various sources, including shares in the docks of the port, and in the works for lighting the town with gas, amounts to more than 12,000*l*. per annum, the whole of which is expended on the objects above mentioned.

The Charter-house was founded in 1384 by Michael de la Pole, the first Earl of Suffolk. The original building was demolished during the civil wars, but was afterwards rebuilt; and this second building gave place in 1780 to the present spacious and handsome

structure. It contains apartments for 29 women and 28 men. Hull also contains several hospitals, a dispensary, and alms-houses; the general infirmary gives assistance to more than 1000 patients in the course of the year.

A free grammar-school was founded in Hull during the reign of Richard III. (1486). This school is open to the sons of all burgesses, on payment of 40*s.* each per annum. Andrew Marvel received his education here under his father, who was master of the school.

Hull has spacious and commodious wet-docks. The oldest dock was opened in 1778. Additional accommodation of the same kind and to a great extent has since been provided to meet the growing trade of the port.

A considerable part of the commercial enterprize of Hull is directed to the whale fishery. This branch of trade was carried on from the port so early as 1598, but declined after a time, and the fishery fell almost entirely into the hands of the Dutch. In 1772 it was again taken up by the merchants of Hull; and in that and each of the two following years nine ships were despatched to Greenland. Since then a much greater number of vessels have been thus employed, the average number during the five years ending with 1833 having been 31, and the quantity of oil annually imported 3300 tons, besides 186 tons of whalebone. During the same period of five years, the average number of ships and amount of tonnage that have entered the port annually from foreign parts, has been 1444 ships and 217,839 tons. The arrivals coastwise during the same period have averaged 1568 vessels of 133,146 tons burthen. The average amount of customs duty collected at the port during the same five years was 681,448*l.* The number of ships registered as belonging to the port in 1833 was 538, of 66,305 tons burthen, and navigated by 4214 men. The principal articles imported from foreign countries are oak-bark, hides, hemp, flax, tallow, timber, and deal, sheep's-wool and bones for manure. Of the last-named article 780,000 bushels, besides 250,000 "shank-bones," were imported in 1833.

Several mills are established in Hull for the expressing of seed-oil; and the refining of spermaceti is carried on to some extent. There are also white lead, and soap manufacturers, sugar refiners, and the various branches of manufacture connected with shipping, such as rope and sail-cloth making. For the purpose of furthering the sail-cloth manufactory, it was determined to erect a spinning-mill in the town, and in 1837 a joint-stock company was founded with a capital of 100,000*l.*, under the title of the Hull Flax and Cotton Mills Company. One mill, 257 feet long by 82 feet broad, with engines of 120 horse power, is already completed, and in active employment chiefly upon cotton. A linen mill of great extent, fire-proof, and another for power-looms, of the dimensions of 256 by 90 feet, have also been erected. The establishment of this business gives quite a new feature to the commerce of Hull, and from its very advantageous situation it affords every prospect of being carried on greatly to the benefit of this flourishing port, and to the advantage of the company. Building ground in the immediate neighbourhood of the mills has since their erection risen in value full 40 per cent.

The average number of ships annually built at this port in the five years ending with 1833 was 22, of the burthen of 2122 tons.

The chartered market days are Tuesday and Friday in every week. There is also a market for meat and vegetables every Saturday, and an annual fair is held on the 11th of October.

The town contains several literary and scientific societies, an infirmary, and various benevolent societies, two proprietary schools, a botanic garden, and a theatre.

The post of governor of Hull is usually bestowed by government upon some officer of high military rank.

Beverley is a borough by prescription, and one of the most considerable towns ... the East riding. According to ... manuscript in Leland's Collectanea, the church or minster dedicated to St. John was founded in the second century of the Christian æra. This building was, it is said, afterwards destroyed by pagans, but was restored by John of Beverley, Archbishop of York, in 704. In the ninth century, the church was again damaged or destroyed by the Danes, and another was built and endowed by Athelstane, who bestowed upon it the privilege of sanctuary, the limits of which were marked by four crosses, each erected at the distance of a mile from the church. The town of Beverley grew up gradually around the church. In 1188 the minster was de-

stroyed by fire, but was speedily restored in all its splendour. In 1717 it had fallen into a ruinous state, and a considerable sum was raised for repairing it. On that and subsequent occasions much was done to repair and restore the building, which, both in size and architectural beauty, is superior to most of the English cathedrals. The length of the Minster from east to west is 334 feet 4 inches; the breadth of the nave and side aisles 64 feet 3 inches; the length of the great cross aisle is 167 feet 6 inches, and the height of the two west towers 200 feet.

During the civil wars the town was alternately in possession of the king and the parliament.

Beverley is situated in a fertile district at the foot of the wolds, 28 miles E.S.E. from York, and nine miles N.N.W. of Hull, with which town it maintains a constant communication by land and by a navigable canal. There are eight great cattle fairs held here at stated periods in every year. The market is held on Saturday, and a considerable trade in corn is carried on in this town.

Very few towns in England can compare with Beverley in cleanliness or in general neatness of appearance. It contains four parishes, but only two churches; the minster or St. John's church being common to the parishes of St. John and St. Martin, and the church of St. Mary being common to the parishes of St. Mary and St. Nicholas. Each parish maintains its own poor. There are four common pastures near the town, containing 1000 acres, into which every freeman of the town may turn 12 head of cattle.

Beverley contains the house of correction, and the office for the registration of wills and deeds for the East riding of Yorkshire. It has also a court of record for the trial of civil causes that arise within the borough; and all the quarter sessions for the riding are held here. The town possesses several charitable establishments, four of which are for the support of poor widows. The Beverley grammar-school is of so old a date that there is no record of its establishment. It has nine exhibitions of small sums from 4*l.* to 10*l.* each, which are now generally given to one student at St. John's College, Cambridge. The Blue Coat School is maintained by private subscription.

South Cave, 24 miles south-east of York, is a small market town situated about three miles from the Humber, at the western foot of the wolds. It is a great market for corn, which is sent thence by the Humber and its branches to the populous towns of the West riding, and it receives in return coals, lime, flags, freestone, &c. The church is a neat building erected in 1601. Near the town is Cave Castle, formerly the residence of the ancestors of General Washington.

Hedon, a borough and market town in the wapentake of Holderness, five miles east of Hull, is an ancient place which sent members to parliament in the reign of Edward I. It was formerly a seaport of some importance, and was then connected with the Humber by a navigable creek, which, as the trade of the town decreased through the growth of the neighbouring town of Hull, was gradually choked up. Camden speaks of Hedon as having been a considerable trading place before his time. It once contained three churches, but of two the ruins only are now visible. A great part of the town was burnt down in 1656.

The town is chiefly composed of one street, which is well paved. The market-place stands about the middle of this street. The market is held every Saturday; on each alternate Monday throughout the year there is a cattle market, and fairs are held four times in the year. The town is situated in a fertile and highly-cultivated district, and derives its principal support from the agricultural occupations of the neighbourhood. Considerable quantities of grain are shipped here every year for the West riding and for London.

Before the passing of the Reform Act Hedon returned two members, but by that Act it was disfranchised.

Patrington, which is supposed by Camden to be the Prætorium of Antoninus,* is a small corporate town in the Wapentake and liberty of Holderness, 49 miles E.S.E. from York. A navigable creek from the Humber conveys vessels within a short distance of the town. The trade of the place consists in the shipment of corn to Hull and London, and the reception of coals and lime from the West riding. The church, dedicated to St. Patrick, whence the name of the town is probably derived, is a beautiful building in the form of a cross: the town also contains a metho-

* And perhaps the Petuaria of Ptolemy, ii. c. 3.

dist and an independent meeting-house. A weekly market is held here on Saturdays.

Hornsea, 36 miles east of York, a small bathing and market town within half a mile from the east coast, in the wapentake and liberty of Holderness, contains a chalybeate spring. Close to the west end of the town is a lake or mere, called Hornsea Mere, which occupies more than 400 acres, and contains abundance of fine fish. St. Nicholas's church is a large Gothic building; it had formerly a lofty spire, which served as a mark for vessels on the coast, but about the beginning of the last century it was blown down, and has not been replaced.

Great Driffield, a market town in the wapentake of Harthill, 26 miles east by north from York, is situated at the foot of the wolds, near one of the sources of the river Hull. The town consists, for the most part, of one street of good dimensions, running from north to south. The woollen and linen manufactures are carried on in the neighbourhood, but the chief support of the town is agriculture. The Driffield navigation, already mentioned, contributes to its prosperity by affording convenient means for conveying the corn of the district to market. All Saints' church is a venerable Gothic building; the steeple is comparatively modern. About a mile north-west of the town is Little Driffield, the burial-place of Alfred or Alchfrid, king of Northumberland, who died there in 702. The weekly market, to which considerable quantities of corn are brought, is held on Thursdays.

Bridlington, in the wapentake of Dickering, 37 miles E.N.E. from York, is a port in the recess of the bay which bears the name of this town, on the east coast in this riding. Bridlington quay, which is nearly a mile south-east from Bridlington, contains several well-built modern houses; it is resorted to in summer as a bathing-place, and it has a small but safe harbour, sheltered on three sides, and defended by two batteries. This harbour is known to have been frequented in the time of King Stephen, who confirmed the possession of it by a grant to the prior of Bridlington. The priory, which was of the order of St. Austin, was founded in the reign of Henry I. It shared the fate of other religious houses in the time of Henry VIII. The remains of the church attached to it show it to have been once a large and handsome structure. The only part now remaining of the walls which once enclosed the priory is a gateway, over which is a large apartment, which is used as the town-hall, and for the purposes of a national school. Some cells beneath are still used as places of temporary confinement. In 1663 the manor was purchased of the crown by the inhabitants, and is held by feoffees on their behalf. One of these feoffees is annually elected lord of the manor, and in his name the courts are held and the business of the town conducted.

The church is supposed to have been erected in the fourteenth century; only about one-third of it is fitted up for purposes of public worship. Bridlington also contains meeting-houses for quakers, baptists, independents, and Wesleyan methodists.

Bridlington contains a free grammar-school, in which 20 boys, sons of parishioners, receive instruction.

The trade of the port consists principally in the shipment of corn and the importation of coals and timber. Extensive rope-walks were established here during the war, but have since been for the most part discontinued. Malting formed an extensive branch of industry here about the middle of the last century, when the produce of the kilns was sent to London; but that business has now greatly declined.

Flamborough, 40 miles E.N.E. from York, in the wapentake of Dickering, was once a place of consequence, but has now become a mere fishing-town. It is built in the middle of the promontory called Flamborough Head, which name is said to have been derived from the practice of placing a light or flame on the promontory, as a beacon for navigators. In the early ages, when the Danes were accustomed to make hostile visits to the shores of England, Flamborough was a favourite station with them. A ruin on the west side of the town is still called "the Danes tower," and the entrenchments formed round it are still visible.

The cliffs of Flamborough Head, which are of chalk, and of a brilliant whiteness, form a range nearly six miles long, and in some places rise to the perpendicular elevation of 300 feet from the sea. There are some extensive caverns at their base. A light-house was erected on Flamborough Head in 1806 by the corporation of the

Trinity House of Deptford. The light, which is revolving, may be seen from a distance of 30 miles at sea, and its great utility may be estimated from the circumstance that, in 36 years preceding its erection, 174 vessels were wrecked on or near the spot where it stands, while in several years which followed its exhibition, not a single accident of the kind occurred.

Hunmanby, 34 miles north-east from York, in the same wapentake, is a well-built and pleasantly-situated town in the middle of a fertile district, and about four miles from the east coast. The foundations of an ancient fort may be traced on what is called Castle-hill, in the immediate vicinity of the town.

Pocklington, a market town in the wapentake of Harthill, 12 miles east of York, contains an endowed free grammar-school, with an annual income of more than 1000*l.* arising from land. St. John's College, Cambridge, is a kind of visitor of the school.* The parish church is a very plain building. The canal from this town to East Cottingwith has already been described. Pocklington is a polling-place for the riding.

Market Weighton, in the same wapentake, is a small market town on the high road from York to Beverley, and 18 miles south-east from York. It stands at the foot of the wolds on the west, and on a little river called Foulness. The town chiefly consists of one long street, containing many good modern houses. The water communication with the Humber is by means of a canal which has been already noticed. The general market is held on Wednesday in each week; there is also a small corn-market. There is a free-school here in which 11 children are gratuitously taught to read and to write.

Goodmanham, anciently called Godmundingham, is a place of great antiquity: it has been described as the Delgovitia of the Romans, but this point has been controverted by antiquarians, some of whom consider Market Weighton to have been the Roman station. A great pagan temple stood here laid out in several courts and enclosed by walls, which contained many altars, and was much frequented. The demolition of the edifice took place on the introduction of Christianity, and it is said that the present church was built with some of the materials of the temple. The site is plainly marked by several artificial hills. Goodmanham stands 1½ mile N. N. E. of Market Weighton.

* Minutes of Evidence before Select Committee on Education of Lower Orders. Third Report, 1818.

Howden, a considerable market town in the wapentake and liberty of Howdenshire, is an ancient place. It contains the ruins of a collegiate church, which was dissolved in the reign of Edward VI., and the building was suffered to go to decay. In 1636 the nave was fitted up for public worship. The chapter-house is octagonal, and contains 30 canopied seats. The bishops of Durham had formerly a summer residence at Howden, of which manor they are the lords.

Their palace is now converted into a farmhouse. Howden stands about a mile from the Ouse, and is 17 miles S.S.E. from York; it is one of the polling-places for the East Riding.

Population of the market towns in the East Riding of Yorkshire:—

Kingston-upon-Hull..	32,958
Heydon or Hedon ...	1,080
Patrington..........	1,298
Hornsea............	780
Bridlington	5,637
Great Driffield	2,854
Pocklington	2,265
Market Weighton....	2,169
Howden	4,531
Beverley	8,302
South Cave	1,200
Flamborough........	975
Hunmanby	1,079

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Baines's Directory of Yorkshire.

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Hargrave's History and Description of York.

Marshall's Rural Economy of Yorkshire.

White's History and Directory of the West Riding.

Miller's History and Antiquities of Doncaster.

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A Short History of Beverley Minster, Beverley, 1835.

Clarkson's History of Richmond.

WESTMORELAND.

Westmoreland is bounded on the east by Yorkshire, on the south and south-west by Lancashire, on the north-

west by Cumberland, and on the north by Cumberland and a small part of Durham. The county is of an irregular figure: its greatest length from east to west is 40 miles, and from north to south 33 miles. Its area is about 763 square miles.

The name of the county is descriptive of its character, which is moorland—a region of mountains, naked hills, and black barren moors. On the west, where this county joins Cumberland and Lancashire, commences a range of mountains, which, extending to a considerable width both to the north and south, traverse the whole county in the direction of its greatest length from west to east, to the border of Yorkshire. This range is a part of the Cumbrian mountain system (p. 17). The northern boundary of this elevated tract, which occupies at least one fourth of the county, runs from the northern extremity of Ulles Water, past the village of Shap, to the neighbourhood of Kirkby Stephen, where it joins the high lands of the Penine chain. Its southern boundary commences at the northern extremity of Winandermere and passes a little north of Kendal to Sedbergh, which is just within the limits of Yorkshire. That part of the county which is to the south of this mountain region also contains some hilly tracts: it is drained by the Lune and the streams which fall into Morecambe Bay and the Leven. The part of the county which is to the north of this mountain range belongs to the basin of the Eden, and contains a considerable tract of tolerably level country, bounded on the east by a part of the Penine chain, which occupies the north-east angle of the county, and on the south and west by the offsets of the central mountain range.

Many of the mountains are of considerable elevation, and their summits are of varied forms. Some of them, being rounded and covered with verdure to their tops, form a striking contrast with the barren peaks which rise above them. The mountains do not however attain so great an elevation in this county as in the continuation of the range in Cumberland. Wans Fell Pike, near Ambleside, is 1590 feet above the sea level, and the whole space between the lakes Winandermere and Ulles Water is occupied with mountains of considerable height: the road between these lakes from Ambleside to Patterdale is a mountain pass which exhibits a great variety of scenery of exquisite beauty. A little to the east of this road, midway between it and Hawes Water, is a still higher ridge, 2700 feet high; the Roman-road called High Street went over this pass. A little further south along the same road is Bell Hill, 2486 feet high. Fair Field, near the borders of Cumberland, and a few miles south-west of Patterdale, is 2950 feet high. The summit of Helvellyn (3055 feet) appears to be on the boundary line between Westmoreland and Cumberland: Langdale Pikes (2400 feet) are just within the Westmoreland border. Whinfell Beacon, about six miles north-east of Kirkby Kendal, is 1500 feet high.

The principal rivers are the Eden, the Eamont, the Lowther, the Lune, and the Kent.

The Eden rises in the Lady's Pillar, on the borders of Yorkshire, and taking a northern direction, in a narrow valley, within the mountain region, flows as far as Kirkby Stephen, where the valley widens. From Kirkby Stephen it runs north, and then north-west past Appleby, to its junction with the Eamont, when it enters Cumberland. The course of the Eden, within the county, is about 30 miles, and its basin contains the most extensive tract of open country in Westmoreland.

The Eamont flows from the head of Ulles Water, or Pooley bridge, forms the boundary of the county for a short distance, and joins the Eden at the point where it leaves the county.

The Lowther, which is an affluent of the Eamont, has several sources in the mountain region: the chief source rises in Shap Fells, and takes a north-west course to Bampton, and then a north course till it joins the Eamont, near Brougham castle.

The Lune has its source in the parish of Ravenstonedale, in the same mountain in which one of the sources of the Eden rises. Flowing first to the west, and then to the south, it forms for a few miles the boundary of this county and Yorkshire. Continuing its course in the same direction it enters Lancashire, near Kirkby Lonsdale. The upper part of the course of the Lune is in the mountain region, and the whole of its course in this county is within the hilly tract.

The Kent rises in the centre of the mountain mass, near Kentmere Fell, and, being joined by numerous mountain streams, passes by Kendal, and enters the head of Morecambe Bay.

Westmoreland contains several extensive and beautiful lakes, but they are limited to that part of the county which borders on Lancashire and Cumberland, and are contained in the valleys which belong to the Cumbrian mountain system.

Winandermere lake is situated on the south-west, between this county and Lancashire. It is the largest lake in England, being 11 miles long in a straight line, and from one to two miles wide. Its depth varies from 13 to 31 fathoms. It contains 13 islands, and about 4534 acres of water. One of the islands, which is sufficiently large to be permanently inhabited, contains a fine mansion and grounds. The banks of the lake are beautiful, but there is nothing of grandeur about them, except perhaps in the northern part. The mountains are seen in the distance, but the country immediately surrounding the lake consists of gentle slopes covered with rich verdure. The water of the lake is so clear that the eye can see distinctly to the depth of ten yards.

Ulles Water, situated in the north-west, between this county and Cumberland, is about nine miles in length, and varies in breadth from a quarter of a mile to two miles. Its shape is somewhat in the form of the letter S. Ulles Water is the upper part of the valley of the Eamont, which is contracted between high lands, and receives the drainage of the loftiest parts of the mountain region. In consequence of this contraction the scenery of Ulles Water is very different from that of Winandermere. Steep and craggy hills approach the water's edge: in some parts lofty and barren mountains seem to enclose it on all sides, with streams tumbling from their summits; in other places narrow green valleys open; and towards the head the banks become less abrupt and wild. Grassmere and Rydal Water are two small lakes a short distance north-west of Ambleside. These lakes and the surrounding scenery are noted for their beauty, which is of quite a different character from that of the larger lakes, and considered by many even more pleasing. Hawes Water, another small lake a few miles south-east of Ulles Water, is perhaps one of the most beautiful of the whole. There are also several smaller lakes in this county. Some of the tarns or mountain lakes are of surpassing beauty. Most kinds of fresh-water fish are found in these lakes, and Winandermere is particularly noted for the char.

The Lancaster canal commences near Kirkby Kendal, at 144¾ feet above sea level, and proceeds directly south to Hincaster Green, where there is a tunnel 800 yards long. From this tunnel the canal turns directly eastward for a short distance, till it crosses Stainton Beck, where it again takes a southerly course to Burton-in-Kendal, and thence enters Lancashire.*

The rocks of this county are of various kinds, but their localities may be tolerably well defined. The mountainous region, in the north-west angle of the county, is formed of the carboniferous or mountain limestone. The basin of the Eden is of the new red sandstone formation. The Cumbrian or western range of mountains is principally formed of rocks of the greywacke series and protruded masses of granite; basalt or whinstone likewise occurs through the whole of this district. On the south, between Kendal and Morecambe Bay, the carboniferous limestone again appears.

The mineral productions of this county are not very valuable. The slate, which belongs to the greywacke series, is quarried in large quantities: it is of various qualities, the different sorts being distinguished from each other by the fineness of their grain, by the thickness of the laminæ into which they split, by their colour, and their weight. The most general colour is blue, or blue with a greenish cast; the best is a purple slate nearly black. Geologically this slate formation consists of three divisions, each of which series is distinctly defined, and they also have their distinguishing marks in the mountain scenery (p. 18). A very coarse species of granite is found in many parts of the county. Near Wastdale Crag is a very remarkable granite; the vast masses of crystallized felspar enable a person to recognize its boulders, which are found in the plains of Yorkshire at large distances from their site. They are never found to the west of the site: this granite is of an extraordinary hardness. A little nearer to Kendal there is another mass of granite of a flesh colour. Red porphyry is also found near Kendal. At Acorn bank is a vein of gypsum. Coal is wrought in some parts of the great carboniferous chain extending from Penigent to Kirkby Stephen; but the dislocations are so great as to affect the

strata of the coal measures so materially, that there is only one bed, and that in the lowest part of the coal measures, of sufficient value to be worked. It varies from 18 inches to nearly four feet in thickness. It is worked at Tarn Hill on the borders of the county, on the road between Brough and Argengarthdale in Yorkshire. The same seam occurs near Kirkby Stephen. There is a coal-pit in Meldon Hill, in the Dufton Fells. At the Barbon coal-pit, situated in the south-west angle of this county, a stratum of this series is likewise wrought; but it is only 1 ft. 2 in. in thickness. The quality of the coal of Westmoreland is not in general very good. In some parts it is found mixed with ferruginous and pyritous shale, and is not fit for domestic use.

A large part of this county was not many years ago uninclosed and uncultivated. The soil of the mountainous districts is in general a hazel mould, which, in its natural state, produces only a coarse grass, heath, and fern, and is of so little value as to be scarcely sufficient to feed a few sheep. The attention of the farmer has however been turned to its improvement, and large tracts of land have been drained, commons have been enclosed, and a great deal of land which was once entirely unproductive is now brought into profitable cultivation. The low ground is an excellent soil, and well adapted for arable husbandry, while the narrow valleys of the mountains everywhere give evidence of rich verdure and fertility. It appears, from the circumstance of trees being found in mosses on the highest hills, that Westmoreland was once a well-wooded county. In the neighbourhood of Lowther there are now some valuable woods belonging to the Earl of Lonsdale. There are also many detached rows of ash and sycamore round the dwelling-houses in the dales; and in some parts of the county considerable portions of land are covered with coppice consisting principally of oak, ash, alder, birch, and hazel. The underwood of the coppices is chiefly applied to the making of hoops or is burnt into charcoal, which is sent to the iron furnaces in the neighbourhood: the hoops are sent by sea to Liverpool. Oats are the principal grain cultivated: wheat, clover, and turnips are likewise grown. The wool of the sheep which depasture on the mountains, is much used in the manufactures of Kendal and of Bradford, in Yorkshire. Numbers of geese are bred in the mosses and are exported.

The climate of this county is considered in general salubrious, but in the mountainous parts the air, though pure, is cold and piercing. Owing to its contiguity to the western ocean and the mountainous character of its surface, Westmoreland and the adjacent mountainous parts of Cumberland receive more rain than any other parts of the British islands, and probably more than any other parts of Europe.

Westmoreland is divided into four wards, West, East, Kendal, and Lonsdale, comprising 109 parishes and eight market towns. It is represented by two members in parliament.

Kendal, is 185 miles north-west of London, on the side of a hill at the bottom of which the river Kent flows. It is the principal town in Westmoreland, though Appleby is the county and assize town. Since the Reform Act, Kendal sends a member to the House of Commons. The town consists chiefly of one handsome street and several smaller ones. The town is in general clean, well-paved, and lighted. The houses are chiefly built of hewn stone; some of the houses in the narrow streets are of considerable antiquity. The church, a fine and spacious Gothic structure, stands without the town. There are five places of public worship for Dissenters. The town has a well-endowed free grammar school besides other charity schools, and a Blue Coat school where 50 boys and 40 girls are maintained and educated for useful trades. Kendal has a dispensary and several other charitable institutions. The town hall is a handsome building, and the gaol is of modern erection. Three bridges cross the river. On an eminence on the east side of the town and of the river stand the ruins of a castle which is supposed to have been built on the site of a Roman fort. Opposite the castle is an artificial conical mound called Castle Law Hill, on the summit of which a handsome obelisk was erected by the inhabitants to commemorate the revolution of 1688. Kendal was one of the first provincial towns in which a newspaper was printed. The principal manufacture is cotton. Coarse woollen cloths, linseys, knit worsted stockings, flannels, hats, serges, &c. are also manufactured here; and there are small establishments for making fishing-hooks, wool cards, and similar articles. The leather trade is

considerable. Marble is worked at Kendal Fell, (or moor,) to the west of the town, where there are also mills for scouring and polishing it. In the neighbourhood of the town are numerous orchards which produce abundance of fruit. Salmon and trout are taken in the river. The canal which runs from Kendal to Lancaster opens to the town an extensive inland communication.

Appleby, the county town, is 20 miles north-east of Kendal. It sent two members to parliament till it was disfranchised by the Reform Act: it is now the election town of the county. Appleby has two churches, a free school, county hall, and gaol. An ancient castle stands on an eminence rising from the river at the upper end of the main street; the keep is still in good preservation. At each end of the town there is an ancient stone obelisk. The town-hall and shambles are inconveniently situated, in the middle of the main street. There is no manufacture of any importance here. Appleby is supposed by some antiquarians to have been a Roman station.

Kirkby Lonsdale is a market town, on the borders of Lancashire and on the banks of the Lune, 11 miles south-east of Kendal. The town is neat, well paved and lighted. The houses are built of free stone, and covered with slate. The church is a fine building, and there is a well endowed free school. A handsome bridge of three arches crosses the Lune; there are several mills which are driven by the waters of the Lune; the river abounds in salmon and trout. Kirkby Lonsdale is a polling place for the county.

Kirkby Stephen, a market town 19 miles E. N. E. of Kendal, is situated on the west bank of the Eden where that river leaves the mountains and enters the hilly tract which occupies the southern part of the valley of the Eden. The town is in a fertile, well wooded plain, surrounded by hills. Kirkby Stephen is very irregularly built. The church is a large old building with a lofty tower. The free grammar school was founded in the reign of Elizabeth. The inhabitants are mostly employed in a woollen manufacture, and in the making of knit stockings, which form the staple article of traffic.

Ambleside is situated on a declivity near the northern extremity of lake Winandermere, 11 miles N. W. of Kendal. It has a considerable manufactory of woollen cloth. Ambleside is supposed to have been built on the site of the Roman city Dictis, and Roman antiquities are sometimes found in the vicinity. Kirkby Stephen and Ambleside are polling places for the county.

Brough, 22 miles E. N. E. of Kendal, stands on a small affluent of the Eden. In the vicinity are the ruins of a castle, supposed to be of Roman origin.

Milnthorpe, seven miles and a half south of Kendal, is a small market town well situated on the Beetha, a small river which falls into the æstuary of the Kent. There are paper mills in the neighbourhood.

Shap, 14½ miles north by east of Kendal, is one of the polling places for the county.

There are vestiges of two Roman roads in this county. One, called High Street, runs due north and south a mile or two west of Hawes Water, over a very mountainous region. The other road, a branch of Watling Street, runs north-west, and nearly parallel to the Eden in its course from Brough northwards.

Population of the market towns of Westmoreland.

* Kendal (Town)	10,015
Kirkby Stephen	2,798
Brough	1,882
Appleby	1,459
Shap	1,084
Orton	1,501
Ambleside	1,095
Kirkby Lonsdale	3,949
Milnthorpe	1,509

Authorities.

Housman's Topographical Description of Cumberland, Westmoreland, &c.

General View of the Agriculture of Westmoreland.

Nicholson and Burn's History of Cumberland and Westmoreland.

CUMBERLAND.

CUMBERLAND is bounded on the south-east by Westmoreland for 48 miles and by Lancashire for 21 miles; on the west by the Irish sea, 67 miles; on the north-west by the Solway Frith and by Scotland for 30 miles; and on the east by Northumberland 51, and Durham seven miles. It is of an irregular oblong figure, the extreme length of which from north to south is 55 miles, and from east to west 60 miles. Its area is 1523 square miles.

* Whole parish contains 17,427 inhabitants.

The surface of this county is very irregular. The south-west part of the county is mountainous, and belongs to the Cumbrian system. (p. 17). The northern boundary of this mountain region within the county of Cumberland runs from the northern extremity of Ulles Water, past Hesket Newmarket, and Cockermouth, to Whitehaven on the sea. With the exception of some low tracts near the coast, this mountain region occupies all the south-west angle of the county which is included between the valley of the Duddon and the coast from Whitehaven to Duddon mouth. These mountains are broken by numerous valleys of great beauty and variety. Skiddaw and Saddleback, which belong to the lowest series of greywacke slate, and are situated near the centre of the county, are among the most lofty and majestic mountains of Cumberland. Helvellyn, near the southern extremity of Ulles Water, and Sea Fell, east of Wast Water, belong to the second series of slate. South of these are the rugged hills of the third series of slate (p. 18).

The high lands which form the eastern boundary of the county and overlook the valley of the Eden belong to the Penine range. The north and north-west part of the county is occupied by the Cumbrian plain, and is either low and flat, or gently undulating. Some detached tracts of high ground occupy the midland part.

Helvellyn, one of the loftiest mountains in Cumberland, is 3055 feet above the sea level; Skiddaw is 3022 feet high; Saddleback 2787 feet; High Pike, 2011 feet; Sea Fell, 3160 feet; Bow Fell, a little to the east of Sea Fell, 2911 feet; Cross Fell, in the eastern angle of the county a few miles south of Alston, is 2901 feet high.

The principal rivers are the Eden, the Eamont, the Caldew, the Derwent, the Ehen, the Duddon, the Esk, the Line, the Liddle, and the Irthing.

The Eden enters this county from Westmoreland at its confluence with the Eamont, from which point taking a north-west course it passes Carlisle, and falls into the Solway Frith a little below Rockcliffe. The Eamont is described in the account of Westmoreland

The Caldew rises near Skiddaw, and, taking a northerly direction, joins the Eden at Carlisle. The Irthing has its rise on the borders of Northumberland and forms the boundary of the county for several miles: it then turns to the west and joins the Eden about four miles east of Carlisle. The Derwent has its origin in the Cumbrian mountains at the head of Borrowdale Pass: it flows through Derwent Water and through Bassenthwaite Water, and, passing Cockermouth, falls into the Irish Sea at Workington. The Derwent is the outlet of all the drainage of the north side of the Cumbrian system within this county, with the exception of a comparatively small part which is drained by the Eamont and the Caldew. The Ehen issues from the Ennerdale Water, and running by the village of Ennerdale and the town of Egremont continues its course through the plain country for some miles, when it falls into the sea.

The Duddon rises near the junction of this county with Lancashire and Westmoreland, and after forming the south-east boundary for twenty miles, falls into the sea by a wide æstuary. The Esk enters Cumberland from Scotland at a place called the Moat, and passing by Longtown, falls into the Solway Frith. The Line rises on the north-east boundary and joins the Esk a little above its mouth. The Liddle forms the boundary between this county and Scotland from Kershope Foot to its confluence with the Esk. There is another river Esk in the south part of the county, which runs west of Hardknot by a southern course and enters the plain of Ravenglass.

A canal from Carlisle terminates in the Solway Frith near Bowness. This canal, which was completed in 1819, is 11½ miles long, with a rise of 70 feet by nine locks. A railway from Newcastle to Carlisle was opened in 1836. The main line is 62 miles. It enters this county from Northumberland near Denton, whence it pursues a south-west course to Fenton: from Fenton it has nearly a west course till it reaches Carlisle, where it terminates on the Carlisle canal, 75 feet above the level of the sea. Two other railroads have been contemplated: one from Carlisle to Maryport; the other from Lancaster over Morecambe Bay to Maryport. This line would unite London and Carlisle, by means of the railroad from London to Lancaster.

The lakes and mountains of Cumberland present a combination of the grand and beautiful, and probably as much variety as is found in so limited a space in any mountain region, (p. 20, &c.) The Ulles Water lake already mentioned is

the most extensive and the most picturesque of all the lakes in Cumberland; Thirlemere is a narrow irregular sheet of water about three miles long, skirting the west side of the immense mass of Helvellyn, and receiving the numerous torrents which pour down from the sides of that lofty mountain. The shores of this lake are bare and rocky, and its general appearance is wild, but not desolate. Near the middle of Thirlemere the rocky shores are so contracted as to admit of a bridge being thrown across the lake. Further north numerous sheets of water are precipitated from considerable heights, and the north extremity of the lake is terminated by a pyramidal towering rock.

Derwent Water, about nine miles to the west of Ulles Water, is of an elliptic form. It lies deep embedded in rugged mountains, which present a great variety of outline; but precipices overhang the water only in a few places. Generally the shores "swell with woody eminences or sink into green pastoral margins," and the beautiful surrounding landscape is reflected from the deep clear waters of the lake.

Bassenthwaite Water, nearly three miles north of Derwent Water, is about four miles in length and nearly a mile broad at the northern end, but at the southern extremity it decreases to little more than a quarter of that breadth. The surrounding scenery is varied and extremely beautiful.

Crummock Water, about five miles to the west of Derwent Water, is nearly four miles in length and about half a mile in breadth. The waters are very deep and clear, and abound with char. Its western border is skirted by lofty mountains, which generally descend precipitously to the water's edge; the opposite shore, which is much indented, is diversified by bays, promontories, plantations, and cultivated land. One mile south of this lake is Buttermere Water, the intervening space being a low tract of fine meadow land. Buttermere is bounded on the southern extremity by the abrupt heights of Honistar Crag. From this steep rock numerous torrents pour down into the lake. Buttermere and Crummock Water occupy the upper part of the valley of the Cocker, which belongs to the basin of the Derwent.

Ennerdale Water, which lies nearest to the coast of all these lakes, is surrounded on all sides except the west with wild and craggy heights. Its length is about two miles and a half, and its breadth about three quarters of a mile.

Wast Water is also very difficult of access, except on the south side. It is situated in the Wast Dale, among mountains, and at the foot of Sea Fell and Sea Fell Pikes, the two highest points in England. This lake is about three miles in length and three quarters of a mile broad in its widest part. Besides these principal lakes there are several smaller lakes: Over-Water between Binsey and Caldbeck Fells; Lowes Water a little to the north of Crummock Water; Devock Water about five miles east of Ravenglass; and three or four smaller lakes called Tarns situated high up in the mountains. Many of these lakes contain excellent fish.

The rocks of Cumberland, like those of Westmoreland, vary in different localities. The mountainous region in the eastern part of the county belongs to the great carboniferous chain: Cross Fell, Hartside Fell, Geltsdale Forest, and Spade Adam Waste, belong to this limestone formation. The plain country, which is bounded on the east by this mountain range and on the south by the Cumbrian mountains, stretches from the borders of Westmoreland to the Solway Frith; the whole of this part is occupied by the new red sandstone. A small strip of the coast extending from Whitehaven to Ravenglass likewise belongs to this formation. The Cumbrian mountains are of the same character as those already described in the account of Westmoreland—greywacke slate with granite protruding—and belong to the transition class of rocks. Greenstone occurs in some of the mountains near Keswick on the south-west. Binsey Hill near Berrier is basaltic; basalt also occurs in a height near Cockermouth. The flanks of Sea Fell seem to be greenstone—just where they join the Eskdale granite. At the juncture, the greenstone and granite are kneaded up together, the granite lying in the mass of the other in fragments of which the angles are not worn. A small part of the county is occupied by the coal-measures, which in some places the red sandstone overlies. The Whitehaven coal-field extends along the coast from near St. Bees Head to Maryport, a distance of about 15 miles; and stretches inland to near Penrith, a distance of about 30 miles. The ascertained breadth is however very small, rarely exceeding three or four miles except at Whitehaven, where the beds

of coal dip beneath the sea. The strata of this coal-field incline to the west or north-west; the number of coal strata is very considerable, as many as 25 having been observed in some places, but not more than six or seven are of sufficient value for working. The seams vary in thickness from a foot and a half to 12 feet, and their aggregate thickness is estimated at 35 feet. The depth of the mines is from 70 to 165 fathoms. Both the Whitehaven and Workington mines are carried a considerable distance under the sea, and require to be worked with great caution. In consequence of want of care in this respect a dreadful accident happened a year or two back at Workington, by which many lives were lost, and three valuable mines inundated and rendered inaccessible for the future.

Slate is quarried very abundantly throughout the Cumbrian range. A grey granite is found in the bed of a branch of the Greta between Skiddaw and Saddleback; and also in the bed of the Caldew on the north-east side of Skiddaw. Sienite occurs at Irton Fell, Muncaster Fell, and Nether Wastdale. A reddish felspar porphyry occurs on both sides of St. John's Vale near Keswick.

Lead, plumbago, copper, iron, and silver are found in this county. The principal lead mines are on Alston Moor, in the eastern angle of the county, where about 40 are now worked. Most of them are the property of Greenwich Hospital; a large quantity of metal is annually obtained from them. Silver and copper are found in some of the mines in the same veins with the lead ore. Lead ore is likewise found between Skiddaw and Saddleback, in Buttermere, Newlands, and Thornthwaite. There are copper mines at Alston, Caldbeck and Wythburn; one also below the level of the Derwent Water, and another in the parish of Lowes Water. Iron ore is raised near Egremont. Plumbago is found on the side of a very steep mountain at the head of Borrowdale. The mine from which it is obtained was formerly only occasionally opened to answer the demand; but latterly the demand being greater, and the mine less productive, it has been worked for a succession of years.

The climate of this county is considered healthy, though it is extremely variable, in consequence of its situation on the coast and of its mountainous character. The annual fall of rain is very considerable, and at Keswick is said to be about 60 inches.

The soil of the plain country is a dry loam, which also prevails on the sides of some of the mountains. In the mountainous districts wet loams and black peat earth occur; the quantity of rich loam in the county is small, and chiefly on the margins of the rivers. In the mountainous districts the prevailing soil is mossy, or dry gravel covered with heath; these barren tracts are chiefly used as sheep pastures and preserves for moor game. On the coast the soil is either gravel or sandy. Wheat, barley, and oats, turnips and potatoes are the principal crops; beans and peas are occasionally cultivated. Cranberries, which form a considerable article of export, are cultivated more particularly in some boggy land near Tarn Wadling. There is a great variety of breeds of cattle and sheep.

Cumberland is divided into five wards, comprising 104 parishes, which contain one city and 18 market towns It is likewise politically divided into eastern and western divisions, each of which sends two members to parliament.

The eastern division comprises—Cumberland, Eskdale, and Leath wards. The western division comprises—Allerdale-above-Derwent, and Allerdale-below-Derwent wards.

Carlisle, a very ancient city, and the county town, is 260 miles N.W. by N. of London. It is represented by two members in parliament. The name of this city is said to be derived from the Saxon words *Caer lyell*, that is, the city near the wall; from its contiguity to the great Roman wall which ran within less than a quarter of a mile from it. In the Itinerary of Antoninus it is called Luguvallium. There are many proofs that Carlisle was an important place while this island was in the possession of the Romans, and the castle is supposed to have been a Roman fortress. After the departure of the Romans, the Scots and Picts laid waste the city, and reduced it to a complete state of ruin. It was rebuilt and fortified with a wall, by Egford, king of Northumberland, who also founded a monastery here. In the year 900 it was again entirely destroyed by the Danes; and remained in a desolate state for nearly 200 years, when William Rufus rebuilt the city, defended it by walls with massive towers, and fortified it with a castle. Henry I. completed what his predecessor had left un-

finished, established two monasteries of black and grey friars, and erected the city into a bishop's see.

Carlisle is situated on the south bank of the river Eden, at its confluence with the Caldew, and about five miles from its mouth. The three principal streets diverge from the market place as a centre: they are wide and regular, and contain some good modern houses. Until lately this city was entirely surrounded by walls, which had three gates—the English on the south, the Scotch on the north, and the Irish on the west. The east part of the wall is now removed: none of the gates are standing. Being situated on the borders of Scotland, this place, previous to the union, was of great military importance. It was defended by a citadel and a castle, the latter situated on a slight eminence to the north and commanding the passage of the Eden. The castle is still kept in repair, and contains, among other buildings, an arsenal, capable of holding many thousand stand of arms. Carlisle is one of the places where Mary queen of Scotland was confined. The suite of apartments which she occupied is still shown, and the place where she took exercise is still called the Lady's Walk. The cathedral, situated on the west side of the town, is a venerable structure of red free stone, blending several different styles of architecture. The length of the choir is 137 feet; its breadth, including the aisles, 71 feet; its height 75 feet. The length of the transept is 124 feet, and its breadth 28 feet. Part of the cathedral now forms one of the parish churches, but it is gloomy and inconvenient. There is another parish church to the south of the town, and two new ones have been lately erected. There are also places of worship for several different denominations of Christians. There is a well-endowed grammar school, a school of industry, two very extensive schools on the National and Lancasterian plans; and various charitable and benevolent institutions. A large court house and county gaol have been recently erected on the site of the old citadel to the south of the town. None of the other public buildings are very conspicuous objects. A handsome stone bridge, nearly a quarter of a mile in length, over the Eden, was completed in 1817, when other improvements in the town were made. The tide of the Eden flows up to the town. This river was made navigable as far as Carlisle, in the reign of George I., but since the opening of the canal the transit of merchandise has been principally through the latter channel. There are also bridges over the Caldew and Petterel. The manufactures of Carlisle consist principally of cotton in all its branches; woollens, linen, leather, hats, hardware, and various other articles. There are several iron and brass foundries and some extensive breweries; also large dye works and marble works. Carlisle is the election town of the eastern division of the county. The city is well lighted with gas. Although situated near the confluence of three rivers, Carlisle is not well supplied with water. Several of the springs are not good, and water is brought to the town in carts from the rivers. Near the town there is a race-course, and also public walks. The town is divided into five wards, with ten aldermen and thirty councillors.

Eight miles north of Carlisle is the market town of Longtown, situated on the borders of Scotland, and on the east bank of the river Esk, over which there is a good stone bridge. The town consists chiefly of one long street and two shorter streets, which are wide and regular: the houses are in general well built. There is a school of industry, a free school, an hospital, and two friendly societies. The chief employment of the inhabitants is the weaving of checks for the Carlisle manufacturers. Large quantities of cranberries are brought in the season to the market of this town, from the moors of Scotland.

Brampton, eight miles E. N. E. of Carlisle, is an old town: it contains a chapel of ease, four dissenting chapels, a grammar school, three Sunday schools, and an infant school. A new town hall was erected in 1817. The principal manufactures are the weaving of checks and ginghams for the Carlisle manufacturers. It is a polling place for the county.

Alston is a market town, 21 miles E. S. E. of Carlisle, situated on a hill, at the base of which flows the river Tyne. It contains a good modern church, four dissenting chapels, a grammar school, a national school, and subscription library. The numerous lead mines in the vicinity give employment to nearly all the inhabitants.

Kirk Oswald is situated in a beautiful vale, on the Eden, 14 miles S. S. E. of Carlisle. A paper mill and a mill for carding and spinning are the only

manufactories of the place. Near the town are the remains of an ancient castle.

Penrith, a market town, 17 miles south by east of Carlisle, is situated in a valley not far from the river Petterel on the north, and the confluence of the Eamont and Lowther on the south. Penrith is a very ancient town, and before the union of the two kingdoms was alternately in the possession of the English and Scotch. On an eminence, west of the town, are the ruins of a castle which was once a strong fortress. The town consists of a number of streets very irregularly arranged. Many of the houses are modern and well built; they are of red stone and covered with blue slate. Besides the church there are places of worship for Dissenters. There is a free grammar school, charity schools, and a Sunday school for boys and girls. The market place is a large building. In the churchyard is an ancient singular monument, consisting of two pyramidal stones, twelve feet high, called, from its dimensions, the Giant's Grave, and at a little distance from it is a stone cross, called the Giant's Thumb. On the heights to the north of the town is the beacon, a square stone building. The inhabitants of the town are chiefly occupied in agricultural pursuits, or in the weaving of checks, and in hat-making.

Wigton is a market town, 10 miles south-west of Carlisle. The streets are in general clean and regular, and there are some well-built houses. It has a good grammar school, and a large Sunday school. The principal manufactures are ginghams, calicoes, checks, printed cotton, and similar articles. The surrounding country is fertile and well cultivated. Here are gas works and a dyeing establishment.

Cockermouth, 25 miles south-west by south of Carlisle, stands at the junction of the Derwent and the small river Cocker. It is divided into two parts by the Cocker, over which there is a bridge of one arch. The streets are irregularly built, in many places narrow, and without foot pavement. On the north, on the summit of an artificial mound, raised on a precipice near the confluence of the two streams, the ruins of the castle are still visible. Cockermouth has several schools, and a dispensary. The principal articles of manufacture are coarse woollen cloths, shalloons, checks, coarse linens, hats, and leather. Cockermouth sends two members to parliament; and it is also the election town of the western division of the county. All the four preceding towns are polling places for the county.

Whitehaven is a large populous seaport, on a small bay of the Irish sea, 38 miles south-west of Carlisle. The town, which is laid out on a very regular plan, consists of several streets intersecting each other at right angles, and the roads and approaches to the town are excellent. The houses are well built, and the appearance of the shops is neat. The streets, however, are ill paved. Many of the inhabitants live in cellars. There are three churches, besides several meeting houses, a public dispensary, a free school, mechanics' institution, charity schools, and other charitable institutions. A handsome theatre was erected in 1769. Three banks have been opened, and two weekly newspapers are published. Coal is very abundant in the vicinity of Whitehaven, and to the successful working of the collieries, Whitehaven owes its prosperity. Within the last two hundred years it has risen from a few huts to be a wealthy and flourishing town. Some of the coal-mines are very deep, and are worked to a considerable distance under the sea: others run beneath the town. Owing to the proximity of the collieries to the port, there are great facilities for shipping the coal, which is largely exported to Ireland. The harbour was much improved in the reign of Queen Anne, when several strong and substantial moles and bulwarks were erected, and it has been still further improved by a new pier of great extent which has been lately constructed, and which forms an excellent harbour. The trade of Whitehaven has also been extended to Africa, America, the West Indies, and many parts of continental Europe, but within the last few years its foreign commerce has not continued equally flourishing. This circumstance is supposed to be owing to the great and extending commerce of Liverpool; and Whitehaven is among the few towns which decreased in population between 1821, when a census was taken, and 1831, the date of the last census. During the summer a steam-packet plies between this port, Liverpool, and Dumfries. There are several yards for ship-building, two sail-cloth manufactories of considerable extent, two large roperies, and three breweries. Light-houses are erected on

both the old and new quays, and the entrance of the harbour is defended by four batteries, which are now in a state of decay. By the Reform Act the town sends one member to parliament.

A few miles south of Whitehaven is the bold promontory of St. Bees' Head, on which there is a light-house. St. Bees contains a grammar-school, which was founded by Archbishop Grindall; and an institution for the education of ministers for the established church.

Egremont, 39 miles S. S. W. of Carlisle, is a small town on the Ehen and about two miles from the sea. On the west of the town are the ruins of a very ancient castle. The manufactures of the place are checks, linen, paper, leather, and sail-cloth. There are some productive iron mines in the neighbourhood. This is a polling place for the county.

Ravenglass, 43 miles S. S. W. of Carlisle, is situated at the mouths of the two small rivers Irt and Esk which unite here, and form a harbour opening into St. George's Channel. The town is well built and the harbour commodious, but the trade is inconsiderable. The oyster fishery forms the chief support of the inhabitants.

Keswick, 22 miles S. S. W. of Carlisle, is situated in a beautiful valley on the Greta and near the north-east end of the lake of Derwent Water. It is a small neat town, and, in consequence of its central situation among the lakes, is in general a resting place for strangers who make this interesting tour. The church is nearly half a mile from the town. The market place is a handsome modern building; and there are two museums. There is a free school and a Sunday school. The black-lead pencils of Keswick are in much repute. Cotton, coarse woollen cloths, carpets, blankets, kerseys, and some linens are manufactured. About a mile and a half to the south of the town is a Druidical monument, consisting of an oval structure of rude stones.

Workington, 31 miles south-west of Carlisle, is a sea-port, about a mile from the mouth of the Derwent. Many of the streets are narrow and irregular, but some are of a better description: the buildings have increased rapidly of late years. The church is a handsome modern building. This town contains a theatre and assembly rooms.

The coal trade to Ireland is the chief support of the town; but there are also a few vessels employed in the Baltic trade. The imports are timber, bar-iron, and flax. The harbour is commodious, and the river is navigable up to the town for ships of 400 tons burden. The quays have been much widened and lengthened within the last 40 years. There is a considerable salmon fishery on the river Derwent. The collieries in the vicinity are numerous and valuable, and several steam-engines are employed in working them. The principal manufactures are of sail-cloth and cordage; and some ships are built.

Between Whitehaven and Workington is the small but flourishing sea-port of Harrington, which exports coal and lime, and has yards for ship-building.

Maryport, 27 miles south-west of Carlisle, situated at the mouth of the small river Ellen, is of modern growth. In 1750 there was only one house on the site of the present town: and when the last census was taken, in 1831, there was a population of 3877. The town contains a chapel of ease, five chapels for dissenters, a national school, and a school of industry. The market house is a very handsome building, lately erected. A new harbour is in progress; the vessels belonging to the port are about 130 in number. The exports are chiefly coal, lime, and stone; the imports cattle, timber, flax, and iron. A steam-packet passes weekly between this place and Liverpool throughout the year, and goes to the Isle of Man and Dublin during the summer months.

Allonby is a small bathing place, 22 miles south-west of Carlisle. It has good warm and cold baths, and is much frequented during the season. Allonby contains a chapel of ease, a quakers' meeting, and a small endowed school. The inhabitants are chiefly engaged in fishing.

Population of the chief market towns of Cumberland:—

Carlisle	20,006
Brampton	3,345
Longtown	2,049
Wigton	6,501
Hesket Newmarket*	
Ireby	499
Cockermouth	4,536
Workington	7,196
Keswick	2,159
Whitehaven	11,493
Egremont	1,741
Ravenglass†	

* Included in the parish of Caldbeck.
† Included in the parish of Muncaster.

Penrith	6,059
Kirk Oswald	1,033
Alston...............	6,858

Authorities.

Hutchinson's History of Cumberland.

Bayley and Culley's General View of the Agriculture of Cumberland.

Ottley's Guide to the Lakes, &c.

DURHAM

Is bounded on the west by a small part of Cumberland and of Westmoreland, on the south-west and south by Yorkshire, on the east by the North Sea, and on the north by Northumberland. Its figure is triangular: its greatest length from north to south is about 38 miles, and from east to west 46 miles. Its area is about 1070 square miles. In the north part of Northumberland, and on its eastern coast, there are two small isolated tracts which belong to Durham, and which are always included in that county. That on the north is called Norhamshire and Islandshire; and that on the east, which lies along the coast between the Blyth and the Wansbeck, is called Bedlingtonshire. Craike, situated in Yorkshire near Easingwold, is also a detached portion of Durham.* Durham is a county palatine; and, until lately, the bishop had jurisdiction within the county both in ecclesiastical and civil matters; but a recent Act of Parliament* has transferred the palatine jurisdiction from the Bishop of Durham (by whom it had long been held) to the crown, and the distinction of County Palatine has been, for most practical purposes, abolished.

The surface of the county is generally uneven, and in the western part it is mountainous, especially in the angle which is occupied by the heights which form part of the Penine chain. These hills are generally bare and barren. The high lands extend from the western border to a considerable distance into the county, the central and eastern parts of which have an undulating surface. Considerable tracts of level land occur in the valley of the lower Tees, and near the coast between the mouth of the Tees and Sunderland.

The principal rivers of Durham are the Tees, the Wear, the Derwent, and the Skern. The Tees has its sources in the moors in the north part of Westmoreland. A few miles from its origin, it becomes the southern boundary of this county, and in its course past Barnard Castle, Yarm, and Stockton, below which last town it falls by a wide æstuary into the North Sea, it separates Durham from Yorkshire. Its upper course is in the mountainous region: its lower course, which is very winding, is through a level country, (p. 22). The Skern rises a little to the S. W. of Hutton Henry, within a few miles of the coast, and, taking a southern course, joins the Tees a few miles below Darlington. The Wear rises in the mountainous tract which occupies the western angle of the county, and, taking an easterly direction, passes Bishop Auckland, where it turns more to the north, and, nearly incircling the city of Durham, continues a winding course to Sunderland, where it falls into the North Sea. The Wear drains the whole of the central part of the county from east to west, and, like the Tees, has its upper course in the mountain region. The Derwent rises on the southern borders of Northumberland, and forms, for some distance, the northern boundary of this county: it then continues a north-east direction through part of Durham, till it falls into the Tyne near the suspension bridge above Newcastle. The Tyne forms the north-east boundary of Durham, and falls into the sea at South Shields.

There are brine springs at Birtley and Butterly, from which a large quantity of salt is annually obtained.

The Stockton and Darlington railway commences at the river Tees, near Stockton, and proceeds in a S. W. direction for about four miles, when a branch goes off to Yarm. There is also a branch from the neighbourhood of Stockton to Middlesborough in Yorkshire. It then continues westerly to Darlington, and turning to the north, and again to the west, terminates at Witton Park Colliery. Four collateral branches communicate with different places on the line. It is principally a double line. The whole length of the main line is 28 miles, and the aggregate length of the main line and the branches is 54 miles, of which 28 have a double track. This rail-road was projected in 1821, and is the first which was made in this country for the transit of passengers, as well as goods. Several collieries along the line are now profitably worked, and Stockton is in

* 6 and 7 Wm. IV. c. 19.

consequence becoming an important place for the shipment of coals. In 1831, 62,749 tons were shipped, and 337 ships were employed; in 1832, 172,930 tons were shipped, and 783 ships were employed. In 1837 there were shipped from this port 1,145,837 tons of coals. Another railway, called the Clarence Railway, for which an Act was passed in 1828, is now finished. It commences at the river Tees, 4 miles N. E. of Stockton, and joins the Stockton and Darlington railway about 6 miles north of Darlington. There are several branches: one, to the city of Durham, quits the main line near Stillington, and is carried to Durham, a distance of 13 miles; another branch, to Stockton, is 2½ miles long; and there are besides three other branches. The main line is 15½ miles long. A railway is in progress to connect Hartlepool with the Durham branch of the Clarence Railway. An act of incorporation was obtained, in 1837, for constructing this railway. The Durham Junction Railway forms a communication between the South Durham coal-field and South Shields as a shipping port. It begins near Moorsley, where it joins the Parliamentary termination of the Hartlepool railway, and ends in the township of Usworth, where it is connected with the Stanhope and Tyne railway. The act of incorporation was obtained in 1834, and the railway was opened for use in 1838, during the meeting of the British Association in the town of Newcastle. The Stanhope and Tyne railway commences at Stanhope, near the Wear, and proceeds for a short distance nearly north, and then continues all through the county in a general east direction, till it again approaches close to the Wear; it then has a north-east direction to South Shields, where it terminates. There are several branches to this railway. A railway between Durham and Sunderland is likewise completed. The Great North of England Railway, for the making of which Acts were obtained in 1836 and 1837, is now in active progress. It runs from York over the Tees by Croft, crosses the Stockton and Darlington and Clarence railways, passes by Durham, and continues in an almost direct course to Redheugh on the Tyne, a few miles above Gateshead; its whole length is 75½ miles.

The mineral productions of Durham are very valuable. The great northern coal-field is situated in the east and north-east of this county, and extends far into Northumberland. From near Staindrop, on the south, a mile or two north of the Tees, this coal-field occupies a large breadth northwards, embracing within its area Durham and Bishop Auckland, and continuing to the Tyne; beyond which it occupies a part of Northumberland: its boundaries there are described in the account of that county. The length of the whole field from north to south is about 55 miles, and its breadth varies from 15 to 20 miles. It is computed that the strata of coal in this county occupy a subterranean area of 22 miles in length, by half as much in breadth. Several seams, which extend many miles, are worked from 20 to 250 fathoms below the surface. The seams vary in thickness from three to six or seven feet thick. The aggregate thickness of coal in the collieries near the Tyne amounts to 32 feet; in those on the Wear it is about 25 feet. The south-eastern part of the coal-field is overlaid by the magnesian limestone, which extends along the coast from the mouth of the Tyne to the Tees, becoming broader towards the south, till, from commencing at South Shields in a narrow belt, it extends west as far as Staindrop. The millstone grit, and the mountain limestone, are the rocks of the western part of the county: lead mines have been worked for several centuries. A considerable proportion of silver is sometimes found in combination with the lead, but the quantity varies greatly. If it does not exceed seven ounces per ton, it is not considered worth the expense of separating it from the ore. The lead mines are situated in Tees-dale and Wear-dale, through which the Tees and the Wear flow. Iron has likewise been obtained in these situations for more than three centuries and a half. In the vicinity of Wolsingham a beautiful black-spotted limestone is found, which is used for hearths, chimney pieces, and similar purposes. Large millstones and grindstones are obtained from quarries in Wear-dale. Many excellent quarries of slate have been opened in various parts of the county. At Gateshead Fell the grindstones are obtained, which are commonly known as Newcastle grindstones, from the circumstance of being shipped from that port. Fire-stone is procured in many parts of Durham, and exported in large quantities.

The soil of the county is various.

Near the river Tees, and along the course of the other rivers and brooks, it is a fine loamy clay. At a distance from the banks of the rivers, the land becomes of a poorer description, with here and there gravel interspersed. Northward from the mouth of the Tees, extending to near Hartlepool, there is a fertile tract of considerable breadth, the soil of which is a rich loam. Next to this, to the north, and to within a few miles of Sunderland, the land becomes *poor and unproductive, the soil being a thin clay on a very hard bottom. On the west of this tract there is a strip of* fine loam on a limestone rock, which affords excellent pasture, and is likewise favourable to the production of grain. In the centre of the county there is a moist clay loam, of moderate quality. The hills between the sea and an imaginary line drawn from Barnard Castle on the south to Mainsforth, seven miles east of Bishop Auckland, are for the most part covered with a dry loam, the fertility of which varies in proportion to its depth: this tract contains some pastures and productive land. From this line westward, the summits, as well as the sides of the hills, are barren moors, chiefly covered with heath. These wastes are made in some degree profitable by rearing hardy breeds of sheep and cattle.

The usual crops are wheat, oats, beans, and peas, and occasionally clover. On some few gravelly spots turnips and barley are grown alternately. The agriculture of the county is mostly arable except towards the western extremity, where the land is applied to pasture. The cattle of Durham are of a large size, and are in great repute among graziers. The sheep are mostly large, and covered with long wool.

Durham is divided into four wards, comprising 120 parishes, containing one city and ten market-towns. It is likewise politically divided into northern and southern divisions, each of which is represented by two members in parliament.

The northern division comprises Chester and Easington wards; the southern division comprises Darlington and Stockton wards.

Durham is situated nearly in the centre of the county, 259 miles north of London, on a rocky eminence, almost surrounded by the Wear, which is navigable as far as this city; the banks of the river thus encircling the city are finely wooded. Durham is a very ancient city, and is said to have been founded in the tenth century. The river divides the city into five portions or districts, which consist for the most part of long lines of buildings, each forming a distinct street, separated entirely from each other, and running in different directions into the country. The Wear is crossed by three bridges. The venerable cathedral, which was founded about a century after the origin of the city, in the reign of William *II. by Bishop William De Carilepho, stands on the highest part of the* town, and the base of the rock which supports its west end is washed by the Wear. The cathedral is 507 feet in extreme length, and 194 feet in extreme breadth. The central tower is 214 feet high. Besides the cathedral, Durham contains six parish churches, and there are several places of worship for dissenters.

A University was founded at Durham in 1831, by the dean and chapter of the cathedral; and an act of parliament was passed in the session of the same year enabling the dean and chapter to appropriate part of the property of their church to this purpose. This university is allowed to grant degrees in the several faculties. The candidates for degrees must be students of a certain number of terms standing. The University has also the privilege of granting honorary degrees. In 1837 it received a royal charter.

A college was founded at Durham in 1657, under letters patent of Oliver Cromwell, and it was endowed with property taken from the dean and chapter of Durham by the act for the abolition of deans and chapters. At the Restoration the dean and chapter resumed their lands, and the college ceased.

In the cathedral school about 60 boys are educated, in addition to 18 on the foundation. This school has four exhibitions for the sons of clergymen, of £25 each at the school, and of £50 each at either of the Universities. It has also five scholarships of £10 per annum each at Peter House, Cambridge, and one of £16 per annum at Emmanuel College, Cambridge, jointly with the school at Newcastle. There are infant schools, a blue-coat, and another charity school, and Sunday schools, in which numerous children receive gratuitous instruction.

The old castle, supposed to have been built by William I., was altered and

adapted for the bishop's residence, but is now appropriated to the university. From the adjoining area, called Palace Green, an avenue leads to the public walks which skirt the river.

The market-place is a small square, having a guildhall on the west side. In the city are the county infirmary and the county gaol. A small theatre was built in 1791.

This city is well lighted with gas. A public fountain stands in the centre of the market-place.

Durham is only in a limited degree a manufacturing town: there is a small establishment for making carpets. It is represented in parliament by two members; and the limits of the parliamentary borough were considerably enlarged by the Boundary Act. The council consists of six aldermen and eighteen councillors. The assizes for the county are held here twice a year.

Sunderland is a large populous market town and sea-port, situated at the mouth of the river Wear, 12 miles north-east of Durham. Sunderland is situated in the angle formed by the south bank of the river and the sea-shore. Monkwearmouth on the north bank, and Bishopwearmouth, bounded on the north by the river, and by the parish of Sunderland and the coast on the east, may now be considered one town with Sunderland, and they are comprised in the parliamentary borough. The north and south parts are connected by a fine iron bridge of a single arch 237 feet span, rising 100 feet above the surface of the water. The high street is spacious and tolerably handsome, especially the central part, which rises with a considerable ascent. The church is a large handsome building, besides which there is a spacious chapel of ease, and several meeting-houses. There are four or five charity schools, a dispensary, a humane society, and several other benevolent institutions. The exchange is a handsome building. The town also contains an excellent public library, a large assembly-room, and a neat theatre. The harbour is formed by two piers running out on the north and south sides respectively of the river, on the extremities of which light-houses are erected. The south pier is of old standing, but the north pier is of later date, and since its construction the harbour is capable of admitting vessels of 300 or 400 tons burthen. A spacious dock has lately been constructed on the north side of the river. The tide rises 16 feet at spring tides. During the last war very extensive barracks were erected on the moor to the east of the town; it is now proposed to form a wet dock on their site, for the greater convenience of trade, the river being too much crowded with shipping. The trade of Sunderland is progressively increasing. Coal is the staple article of export, and the coal trade furnishes employment to many thousand persons. The whole quantity of coals exported from Sunderland was, in 1831, 561,234 tons, ships employed 2,041; in 1832, 600,217 tons, ships employed 2,145. In 1837 there were shipped 932,135 tons of coals. Most of the coals are shipped to London and other places along the eastern coast. Large quantities are likewise exported to the Baltic, and to France and Holland.

The other exports of Sunderland are lime, glass, bottles, grindstones, and copperas. The imports consist chiefly of flour, wines, spirituous liquors, timber, tar, deals, flax, and iron. The manufactures of Sunderland are chiefly flint and bottle glass, earthenware, copperas, and patent ropes. Ship-building also is carried on very extensively. Sunderland is a polling place for the north division of the county. Until the Reform Act, this populous town was unrepresented in parliament; it now sends two members to the house of commons. There are several quarries worked in the neighbourhood, and there are railroads leading to the collieries at Newbottle and at Hetton. In 1831, 464 British ships and 91 foreign ships entered the port of Sunderland.

South Shields is situated near the mouth of the river Tyne, directly opposite North Shields, 17 miles N. N. E. of Durham. The streets are narrow, the houses indifferently built, and the appearance of the town has little to recommend it; yet it is a place of great importance. The river Tyne is about the width of the Thames at London bridge, and the vessels belonging to North and South Shields are disposed in tiers on each side of it, as in the pool of London. About 60 or 70 years ago it is said that only four ships belonged to this town; now it possesses above 500, which are chiefly employed in the coal trade.

The church is a plain modern building. The market-place is a spacious square, in the centre of which stands

the town-hall. There are several public schools, and more than 30 benefit societies. This town has also a theatre. The manufactures of South Shields are chiefly those connected with ship-building. There are docks in which 19 vessels can be at once docked and repaired. There are likewise very extensive glass-works, a pottery, a coal-mine, which may be said to be in the town, and manufactories of soda, alum, and other important articles of commerce.

A Roman station is supposed to have been situated on the point of land near South Shields, which forms the southern entrance into the Tyne. Various Roman coins and other antiquities have been occasionally discovered on this spot. South Shields now sends one member to the house of commons; and it is a polling place for the county.

Gateshead, situated on the Tyne, 13 miles north of Durham, has hitherto been considered rather as a suburb of Newcastle, than a place of any importance in itself. By the Reform Act it was created a parliamentary borough, and it now sends one member to the house of commons. It is connected with Newcastle by a bridge over the Tyne, and the whole parish is rapidly increasing in importance as a manufacturing district. The town consists chiefly of one long street running along a steep descent towards the bridge, where it terminates, and of another wider street which is formed in a curve line to the bridge, whereby the descent is made more gradual. The river side is thickly studded with manufactories and other buildings. There are several windmills at the west side of the town. The church is a large ancient edifice, with a lofty tower. There is a free grammar school. The great grindstone quarries are situated in a bleak and elevated ridge, which extends south of the town. Within the limits of the town are extensive manufactories of chain-cables, heavy iron-work, and steel, and also of glass, and other valuable commodities. It is proposed to connect the towns of Newcastle and Gateshead by a high bridge.

Hartlepool, 17 miles E. S. E. of Durham, is situated on the coast, in the southern division of the county. It was formerly a sea-port of some importance, and a fortified town. It stands on a long narrow promontory, surrounded by the sea on all sides, except on the north-west. On the south side of the narrow neck of land which joins it to the mainland, the water has scooped out a spacious bay, which is quite dry at low water. Formerly ships used to lie here protected on every side by the nature of the place, and secure against the enemy by chains thrown across the narrow entrance of the bay. The old harbour is at present choked up, and the harbour now in use is formed by a pier run out on the south side of the town. Docks in connexion with the Hartlepool railroad have been recently made. The town was also defended on the north and east by a wall and strong towers; the defences are now, however, in ruins: on the south and south-east it is naturally protected by a chain of rocks. At present the town, which is not very large, consists of one principal street, and other smaller streets. The church is an irregular structure of different styles of architecture. The town contains a free school, and a charity school, a townhall, and a custom-house. The fishery off the coast, which is very productive, forms the principal employment of the inhabitants. A chalybeate spring, on the south side of the town, is covered by the sea at every tide. The water is taken for its medicinal properties by the visitors who resort to the town for this purpose, and for sea-bathing during the summer months, in considerable numbers.

Stockton, a market-town and borough, 19 miles S. S. E. of Durham, is situated on the north bank of the river Tees, about four miles in a direct line from the place where it expands into an æstuary, forming a bay more than three miles wide. As the lower part of the course of the Tees is very winding, and the navigation dangerous, a canal was cut, in 1810, about half a mile below Stockton, across a neck of land, by which means two miles and a half of difficult boating are avoided, and exchanged for an easy course of about the twelfth part of the distance. This cut has been very advantageous to the town, the trade of which is at present considerable. The exports are chiefly lead, hams, butter, pork, cheese, leather, grain, flour, sailcloths, huckabacks, plain linens, tammies, and various other articles, which are sent chiefly to the London and northern markets. Large imports are made from the Baltic, Hamburg, Norway, and Holland, of hemp, flax, iron, timber, linen, yarn,

sheetings, hides, bark, smalts, seeds, geneva, &c. There are manufactories of sailcloth, and a considerable one of damask, diaper, and huckaback linens, breweries, rope-walks, a large dry dock, ship yards where large vessels are built for the East and West India trades, and others for the coasting and river trades. There are also two iron founderies, and a manufactory of patent agricultural machines.

Stockton is a neat, clean, and airy town: the streets are well paved, flagged, and lighted. The principal street runs for about half a mile nearly north and south, and is remarkable for its width, which, in the centre, at the market-place, is nearly sixty yards, and it continues almost of the same width throughout. Several smaller streets branch off in different directions, and at the north-east side of the town there is a spacious square. The old church is a handsome brick building; besides which another has lately been built at a considerable expense. The town also contains several meeting-houses. There are a grammar-school, several charity schools, a dispensary, and other benevolent institutions. The town-hall stands near the middle of the principal street. A custom-house and a theatre are among the public buildings. The bridge over the Tees is a fine structure of five elliptical arches; this bridge was began in 1764, and finished in seven years, at a cost of £8,000.

There was formerly a castle on the south side of the town, which was at one time the residence of the Bishops of Durham. During the civil wars it was garrisoned on behalf of Charles I., but afterwards, being taken by the parliamentary forces, it was entirely demolished. The only remaining vestiges are the moat which defended the castle on three sides, and a barn which stood within the area of the works. Stockton is a polling-place for the county.

Darlington, an ancient borough, 18 miles south of Durham, is situated on the Skern, over which there is a bridge of three arches. The town consists of several streets, diverging from the market-place, a large square, at one side of which is situated the church, a very ancient structure, with a lofty and beautiful spire. Another church has lately been built here. A handsome town-hall of modern erection has displaced the old tollboth. Considerable manufactures in wool, linen, and cotton, are carried on in this town; and there is a mill for spinning flax. There are also two iron founderies, and in the neighbourhood a mill has been erected for grinding and polishing glass for optical purposes.

This town has a grammar-school, not well-endowed, founded by Queen Elizabeth; there are also two national schools, and one Lancasterian school, an infant school, and several charity schools. Darlington is one of the polling-places for the county.

Between this town and the Tees there are four round pools, popularly known as "Hell Kettles;" the three largest are nearly 120 feet in diameter each, and in depth varying from 19 to 14 feet; the fourth is much smaller. The water in all of them is impregnated with sulphur.

Barnard Castle, a borough in the parish of Gainsford, 22 miles south-west of Durham, takes its name from an ancient castle, said to have been built by Barnard Baliol, an ancestor of Baliol, King of Scotland. The town stands on the Tees, on the southern acclivity of an eminence, and extends about a mile in length. The principal street is wide, and contains some good houses. The chapel is an ancient building in the form of a cross, with a detached tower. The inhabitants are employed in the manufacture of Scotch camlets, and in the stocking and tanning business; and also in making carpets. This town is a polling place for the county.

The inner area of the castle was enclosed by walls—parts of which remain in various degrees of preservation. There are also the ruins of a large circular tower, which stands on a cliff one hundred feet perpendicular height from the river; the tower is partly covered with ivy, and forms a most picturesque object contrasted with the brown rock on which it stands.

Bishop Auckland, eight miles south-west of Durham, is a market-town and borough, standing on an eminence near the Wear. The Gaunless, a small affluent of the Wear, falls into that river close to the bishop's park, through which it runs. The site of the town is on the old Roman road, Watling-street. The town is well built, and has a spacious market-place. There is a chapel of ease rebuilt by subscription some time in the last century; and attached to it is a grammar-school, to which the building of the old chapel had formerly been ap-

propriated. This school was founded by James I., and further endowed by Bishop Neile. There is also a charity-school, founded by Bishop Barrington, with the view of forming schoolmasters; also an infant-school, and one for girls, chiefly supported by the present bishop. The town derives its name from the residence of the Bishops of Durham. The palace or castle is situated at the north-east end of the town; it is an irregular pile of buildings resembling a magnificent abbey. The palace chapel, restored by Bishop Cosins, is a fine structure of the early English character. It is 84 feet in length, and 48 broad. Bishop Auckland is a polling-place for the county.

Sedgefield, 11 miles S. S. E. of Durham, is a small neat town, containing a church, considered one of the handsomest in this part of the county. It has some curious early English piers with enriched capitals, and some decorated windows. There are some almshouses, a small endowed school, and several other schools. Sedgefield is a polling-place for the county.

Chester-le-Street, 6 miles north of Durham, is supposed to be on the site of a Roman station. In 882 it became the seat of the bishopric, which was removed hither from Lindisfarne, and it maintained its episcopal rank until 995, when a Danish invasion drove away the bishop and clergy, who afterwards settled at Durham. The church consists of a nave with side aisles, a chancel, and a tower at the western end, surmounted by a lofty spire, the tower and spire being together 156 feet in height. Chester-le-Street is a polling-place for the county. The population of the parish is 15,428.

Wolsingham, 12½ miles W. by S. of Durham, is pleasantly situated on a point of land formed by the confluence of the Wear and the Wescrow. The church is situated on the north side of the town; near it are the remains of a large building which some suppose to have been part of a monastery founded by Henry de Pudsey. The lead mine district commences near this town.

Stanhope, 17½ miles west of Durham, stands on the northern bank of the Wear. The church is a plain ancient building, situated on rising ground on the north side of the town. On the west side of the town is an eminence rising to the height of 108 feet, called the Castle Hill. It is said this is the site of a fortress of remote origin, demolished in an incursion of the Scots. Stanhope is a polling-place for the county.

The inhabitants of the town are chiefly employed in the lead mines in the vicinity.

Staindrop, an ancient town 16 miles S. S. W. of Durham, is situated in a beautiful vale. The town principally consists of one wide street, in which there are some well-built houses. The church is an ancient building, formerly collegiate. There are two places of worship for dissenters, and several day and Sunday schools. Near the town is Raby Castle, the seat of the Duke of Cleveland, which is one of the finest castellated mansions in the kingdom.

Population of the city and market-towns of Durham:—

Durham	10,125
Sunderland	17,060
Gateshead	15,177
South Shields	9,074
Wolsingham	2,239
Bishop Auckland	2,859
Barnard Castle	4,430
Darlington	9,417
Stockton	7,763
Hartlepool	1,330
Sedgefield (parish)	2,178
Stanhope (parish)	9,541
Staindrop (parish)	2,395

Authorities.

Hutchinson's History of Durham.

Raine's History of North Durham.

Surtees' History of the County of Durham.

Granger's General View of the Agriculture of Durham.

NORTHUMBERLAND,

the most northern county of England, is bounded on the south by Durham, on the west by Cumberland, on the north-west by the shires of Roxburgh and Berwick in Scotland, on the north by a small detached part of Durham, and on the east by the North Sea. It is of an irregular shape, being much narrower in the north than in the south. Its greatest breadth from east to west is 45 miles, its smallest breadth is 16 miles, and its greatest length from north to south is about 60 miles. It contains about 1870 square miles.

The surface of this county is greatly diversified. The western part is a moun-

tainous district, the greatest part of which is bare and uncultivated. A range of lofty hills, called the Cheviot Hills, runs along the north-western borders of the county, separating it from Roxburghshire. This elevated tract is continued southward to the depression in the high lands already mentioned (p. 14), and in its southern continuation is bounded on the west by Cumberland. South of this depression the western hilly region again rises, and is continued to the high lands of Alston, which also are bounded on the west by Cumberland. The mountainous district commences near Carham in the north, and stretches to the east as far as West Newton, Kirk, Wooler, Ilderton, Brandon, Alwington, and Hepple; from Hepple it pushes out an arm as far as Rothbury, and from Rothbury the eastern boundary of the mountain country takes a south-west direction to the Roman wall and the Cumberland border.

Some few detached elevations occur in the south-western part of the county; but the western part of the county south of the river Coquet has few striking irregularities of surface, consisting mostly of extensive open solitary wastes, growing little else but heath, and affording scanty pasturage to the flocks that feed upon them. These moorlands have an average height of from 500 to 1000 feet above the sea-level, and form part of that extensive tract of moors which occupy nearly a third of the county. Beyond the Coquet river, towards the north, the elevations which branch out from the mountain-mass assume a less unpromising appearance; they are in general fine verdant hills, grouped in a variety of forms and enclosing numerous vales.

The highest of the Cheviot Hills is 2658 feet above the level of the sea. Hedgehope, six miles south of Wooler, is 2347 feet high. Simonside Hill, nearly in the centre of the county, is 1427 feet high; and Alnwick Moor is 808 feet above sea-level. Towards the middle of the county the surface is diversified by rocky hills of no great height, but often stretching out into dreary wastes. The south-eastern part of the county, between the Coquet and the Tyne, is gently undulating; and the valleys of the lower Tyne and the Wansbeck contain much fertile land.

Along the sea the country is level and the coast is generally low; though there are some cliffs of considerable height and great geological interest. From the Tweed to the Tyne the coast runs in a general south-south-east direction, and within these limits there are four bays, one opposite Holy Island, another, very little more to the south, called Budle Bay, into which the small river Warnburn flows, Alnmouth Bay, and Druridge Bay.

The principal rivers are the Tyne, the Reed, the Blythe, the Wansbeck, the Coquet, the Aln, and the Till. The Tweed more properly belongs to Scotland.

The Tyne is formed by two branches, the North and South Tyne. The North Tyne has its source on the borders of Scotland; the South Tyne rises near Cross Fell in Cumberland; the two branches unite a little above Hexham, whence the river runs in an easterly direction to Newcastle, and falls into the sea between North and South Shields. The Reed rises near Carter Fell in the Cheviots, and near Bellingham joins the North Tyne, which, as well as the South, receives several other tributary streams. The Blythe rises near Thockrington, and taking an easterly course bounds Bedlingtonshire, a detached piece of Durham, on the south, and there falls into the North Sea. The Wansbeck rises in the centre of the county, near Whelpington, and taking an eastern direction flows past Morpeth: it forms the northern boundary of the same piece of Durham, and falls into the sea three miles north of the Blythe. The Coquet rises in the Cheviot Hills, and flowing to the east through Rothbury falls into the North Sea at Warkworth. The Aln has its source near Alnham, and likewise takes an easterly course past Alnwick: it falls into the sea at Alnmouth. The Till also rises among the Cheviot Hills, and flowing in a north direction falls into the Tweed in Norhamshire. The Tyne and the Tweed have long been celebrated for their salmon fisheries, which give employment to a great number of men. The fishery of the Tyne, however, has greatly declined. There is also a salmon fishery on the Coquet. The salmon is packed in pounded ice, and sent to London in fast-sailing smacks. The tide flows up the Tyne sixteen miles. There are no canals in this county.

A railway between Newcastle and Carlisle was opened in 1838. This railway is about 60 miles in length, and

for the greater part runs through this county, in the valley of the Tyne and South Tyne, sometimes on the north, and sometimes on the south side of the river. In its course it passes by Bywell St. Andrews, Corbridge, Hexham, Haydon Bridge, and Haltwhistle. There is another railway from Newcastle to North Shields, about seven miles long, which was opened in 1839. The Brandling Junction Railway, also opened in the same year, unites Gateshead with South Shields and Wearmouth. There are several other railways, made for the purpose of conveying the coals from the different pits to the Tyne. The Great North of England railway will run from York past Darlington to Redheugh on the Tyne a little above Gateshead.

The north part of this county extending along the banks of the Tweed on one side, and bounded by the sea on the other, is chiefly occupied by the mountain limestone. This rock extends from the coast in a south-west direction, and occupies the whole of the western part of the county, with the exception of some greenstone which forms the rock of the heights west of Wooler. The carboniferous or mountain limestone is skirted on the east by a broad belt of millstone grit, which separates the limestone and the coal measures, and crops out between the two. The whole of the south-eastern part of the county is occupied by the extensive coal-field already noticed in the description of Durham. Trap rocks occur in both the limestone series and in the coal-measures.

The mineral productions of Northumberland are the great sources of its wealth; and among them the coal, lead, and iron are the most important. The coal district, which occupies so large a part of this county, has for several centuries supplied the great and increasing consumption of London, the eastern and southern parts of the kingdom, and some parts of the continent; and it will probably, at the present rate of demand, continue to furnish fuel for many centuries more.

The Northumberland coal-field extends along the coast from the Coquet on the north to the Tyne on the south: it reaches about ten miles west of Newcastle. The length of the Northumberland and Durham coal-field from north to south is 55 miles; its breadth varies from 15 to 20 miles, and sometimes more, the western boundary being rather imperfectly defined. The finest kind of coal which is raised for exportation, is confined to the district around Newcastle, called the Coal district, or Coal Measures. Slate-coal, which is of an inferior quality to the coal of the regular coal measures, is found in both the millstone grit and carboniferous limestone, and raised in great abundance for home consumption. The coal strata in this district, and the adjoining one of Durham, appear to be spread out in regular layers along the bottom of an immense basin or trough; and though each layer does not always extend without interruption through the whole basin, yet the principal layers preserve so general a uniformity in their thickness, parallelism, and order of succession, that their identity is easily recognised over a very considerable area. The strata of coal are separated from each other by beds of sandstone and shale, and succeed each other at determinate intervals. Along the boundaries of the district, and on its surface, these various strata seem to slope towards the centre: thus the same layer is found at different depths in different parts, and deepest at the centre, which is near the village of Jarrow in Durham, where the High Main or principal seam of coal is at the depth of 160 fathoms. From this depth it rises on all sides, appearing at the surface at certain distances all round Jarrow, while the upper strata appear successively at other and nearer distances to the centre, forming concentric circuits around it at distances proportionate to their depth. The inequality of the surface of the ground does not in any way affect the slope of these strata. When they are interrupted or cut off by intervening valleys, they appear again at the opposite elevation in the same position and direction as they would have done if no such interruption had occurred.*

The coal beds of the millstone grit and carboniferous limestone are distinguished from the other coal by the limestone strata, which do not occur in the "Coal Measures." Numerous coal mines are sunk in this district: they are of small depth, and the strata, unlike those of the coal district, undulate with the sur-

* In some dislocations of the strata, however, it appears as if one side had been elevated above the strata on the other. This is most remarkably visible in what is called by the miners Ninety Fathom Dike, where the strata are elevated 500 feet on one side above those on the other. At the cliff at Whitley quarry, near the mouth of the Tyne, this is more especially apparent.

face of the ground. Lead is found in various parts of the county. The chief mines are those of Allendale, in the south-west part of the county, which belong to T. W. Beaumont, and from which one-fourth of the lead raised in the kingdom is produced. Large quantities of zinc ore are contained in the veins of lead. Ironstone is found in abundance enclosed in the strata of indurated clay which alternate with the coal beds in the coal measures. Limestone abounds in Northumberland, and is of excellent quality.

The soil of this county varies from irreclaimable barrenness to great fertility. The tops of the mountains in the west are nothing but broad heaths and cold and swampy morasses; but as we advance more to the east, the valleys grow wider, the sides of the hills have a greener appearance, and the soil increases in fertility. The Cheviot Hills, though capped with heath and a spongy and barren soil about their higher parts, on the whole present a fine surface of green sward, which supplies excellent pasturage for sheep. In the north-east part of the county the soil is of a gravelly nature, and it is in a high state of productive cultivation. Along the sea-coast from Bamborough to the Wansbeck the soil is strong and of good quality. All that tract which lies between the Wansbeck and the Tyne lies upon a subsoil which is retentive of moisture, and is of a cold clayey quality. Along the banks of the rivers the soil is chiefly a light gravel, sand, or dry loam. The valley of Hexham, which extends up the North Tyne to Bellingham, and up the South Tyne to Haltwhistle, is a fine loam which rises up the slopes of the hills till it meets with thin soils covered with poor grasses, and in many places with heath. This valley is the most beautiful and fertile part of Northumberland; the climate is more temperate, and the harvests earlier, than in any other part of the county. Generally, however, the climate is much colder than in the more southern counties, varying, as usual, according to the elevation of the surface. Snow often continues on the mountains for several months after it has entirely disappeared in the lower districts.

The woodlands of Northumberland are not very extensive, but plantations on a large scale are constantly being made. They are chiefly confined to the banks of rivers.

Both arable and pastoral husbandry are carefully pursued in this county. Wheat, barley, oats, potatoes, turnips, and beans, are the principal crops. Turnips, especially, are carefully and largely cultivated in rotation with other crops, wherever the soil permits. Oxen are mostly grazed in the eastern part of the county for the supply of Newcastle and the other populous towns, and of the large fleets of colliers and other traders. The sheep chiefly pasture on the mountainous districts of the west and north-west. The cattle of Northumberland are generally of good breeds: those for fattening are mostly Scotch. The cows kept for the dairy are chiefly of the Durham breed. The sheep are mostly of the native Cheviot breed.

Northumberland is divided into six wards, comprising 530 parishes and 12 market towns. It is likewise politically divided into southern and northern divisions, each of which is represented in Parliament by two members. The southern division comprises the wards of Tynedale and Castle, and the county of the town of Newcastle; the northern division comprises Bamborough, Coquetdale, Glendale, and Morpeth; the detached parts of Durham, and Berwick "bounds," are included in this division.

Newcastle, the principal town of the county, and a county of itself, is 250 miles north-by-west from London, direct distance. It is situated on rising ground, on the north banks of the river Tyne, and about 10 miles from its mouth. The river is deep enough to admit vessels of 300 or 400 tons to come to the town. The streets extend for above two miles along the river, and about one mile from the river towards the north and north-west; the town has of late been much enlarged. The streets nearest the Tyne are the oldest part of the town, and are in general narrow, steep, and irregular, and the buildings are much crowded together. Very narrow alleys, called *chares*, run with a steep descent to the river; on each side of these are high, dismal-looking buildings, chiefly warehouses, giving to the place an appearance of great antiquity. But as the place has increased in wealth and importance, additions have been made in a much better style of building, especially on the north and west, where the streets are wide and the houses of a superior description. About six years back the greatest improvements were

begun by one enterprising individual on a scale of magnificence not surpassed by the buildings of London. A large piece of ground, situated in the midst of the town, is the site of most of the new buildings. This spot once contained a nunnery, and it remained a waste, as the proprietor for a long time refused to sell it. Two fine streets, Grainger and Grey-street, are built on this spot, together with several others leading from them. At the point of entrance from the north, where these streets converge, there is a fine column surmounted by a colossal figure of Earl Grey, by Bailey: the entire height of the structure is 135 feet, of the figure 14 feet. The market-place, situated in Grainger-street, is one of the finest in England. It is a square of two acres, all of which is under one roof. The church of St. Nicholas, the finest of the public buildings of the town, is supposed to have been built in the 14th century: the steeple, which possesses uncommon symmetry, rises in the form of an imperial crown above all the other buildings of the town. All Saints' is a handsome modern church, of an elliptic form in the interior. There are two other churches, several chapels of ease, and numerous places of worship for dissenters, to most of which charity schools are attached. St. Thomas's chapel, situated at the north entrance of the town, is a beautiful modern piece of architecture. Newcastle contains a free grammar school, a large Lancasterian school called "The Royal Jubilee school," and a National school. Among the charitable institutions, which are numerous and liberally supported, there are, a general infirmary, a dispensary, a fever hospital, a lunatic asylum, the freeman's hospital, and the keelman's hospital. This last is an excellent institution, in the nature of a benefit society for the support of sick or superannuated members. The other public buildings deserving of notice are—1. The mansion-house, erected in 1691, but now disused. 2. The trinity-house, built in 1505: the buildings have been frequently repaired and enlarged. The great hall was built in 1721. 3. The exchange and town court, a very large and noble building erected in 1658, on the south and east of which is a spacious area, on the river side, wharfed up and faced with freestone, forming one of the largest and longest quays of any in Great Britain. 4. The court-house, which is a double rectangle, 48 yards long and 24 wide. The north elevation has a Grecian Doric portico of four pillars; the south side, which has a portico of six Doric pillars, is on the model of the Theseium at Athens. 5. A new gaol was erected in 1823. 6. The library of the Literary and Philosophical Society, which contains about 14,000 volumes, and spacious reading rooms: the museum of the Natural History Society adjoins it, and contains valuable collections in natural history, &c.; it is open to the public without charge from 12 till 4 every day except Sundays. 7. The assembly rooms, erected in 1766. 8. The theatre, a very handsome modern building, opened in 1837. It is situated in Grey-street, and adds to its general beauty. 9. Public baths, erected in 1837. The building occupies an area of 176 feet by 134, in the centre of a field of 12 acres. There are open plunging baths, and other baths of all kinds. 10. The North of England Society, an institution for the cultivation of the arts of painting, sculpture, &c., was established in 1837. A gallery for exhibitions, and other apartments, belonging to the society, forms one of the handsome modern buildings erected in Grey-street. 12. The literary, scientific and mechanical institution is another fine modern building. 13. The music hall, a new building, 80 feet in length, 40 wide, and 25 high.

Gateshead, situated on the other side of the river, is considered almost as a part of Newcastle, with which it is connected by a fine bridge of nine elliptic arches, and 600 feet in length. It was erected in 1781, to replace an old bridge which had been carried away by an extraordinary flood in 1770. In clearing away the foundations of the old bridge various Roman coins were found in the piers, and this, joined to other evidence, has led to the conclusion that this was the site of the Pons Ælii of Hadrian. The wall built by that emperor ran past this spot, and there is no doubt that it was an important Roman station. Among the Saxons Newcastle seemed to be of little note. The present name of the town is derived from a new castle which was built on the site of an old fortress in 1080 by Robert, son of William the Conqueror. Considerable remains of this castle are still standing. It was placed on an eminence overlooking the town, and is now crowded round by its old houses and narrow streets, over

which there is a fine view from the battlements of the castle. This structure originally consisted of a square tower and other buildings, surrounded by an outer and inner wall. There are few traces left of the outer wall, and the remains of the inner wall were pulled down in 1811. There are several apartments still in good preservation, and the whole conveys a notion of the immense strength of the place. The great tower is about 80 feet high, and the walls are 14 feet thick. In the chapel there are beautiful specimens of the Anglo-Norman round arch style in excellent preservation. In one of the apartments, supposed to have been the kitchen, a massive pillar stands in the centre, which forms the abutment of several arches which spring from it.

This town was once surrounded by walls which were more than two miles in circumference. It had seven gates and seventeen towers. The walls were 12 feet high on the inside, and 8 feet thick; on the outside their height in many parts exceeded 20 feet to the top of the battlements. There are still considerable remains of the wall, but they are constantly being diminished, and much has been already taken away in the progress of improving the town. None of the gates now remain. Newgate was for a long time used as the town prison, but in 1822 an act was obtained for the removal of this gate and for the erection of another gaol. This venerable tower was therefore taken down; it had been used as a gaol ever since 1399. Several of the towers are kept in good repair, and are used as halls by some of the different companies of the town.

The coal trade is the principal business of Newcastle. The chief collieries are situated along the Tyne both above and below the town, and afford an immense annual supply.

	Tons.		Ships.
In 1831,	1,152,851	of coals were shipped from	3845
1832,	1,171,227	Newcastle to London in	3627
1837,	2,392,494		
1838,	2,450,778		

The coals are conveyed from the coal-pits to the water's edge, on rail or tram-roads having a slight inclination, whereby the trains of waggons descend without the application of any force, and when emptied at the stations are carried back by another road to the mines. From the stations the coals are conveyed for exportation in keels or large boats to the respective vessels.

Newcastle has, independent of the coal trade, considerable foreign commerce. The imports chiefly consist of corn, timber, iron, hemp, and other commodities from the Baltic and Norway. Sulphur comes annually from Sicily direct in large and increasing quantities, and dried fruit, oranges, &c., are being brought from the Mediterranean in larger and more regular supplies than formerly. The principal exports, after coals and lead, are grindstones, salt, butter, tallow, and salmon from the fisheries. Several packets and other vessels are employed in the trade to London, besides numerous others bound to various ports in the kingdom. Several ships are also sent to the Greenland fishery. In 1832, 432 British ships, and 323 foreign ships, entered this port, exclusive of the numerous vessels employed in the coasting trade; and in 1837, 1608 ships, British and foreign, entered the port. The coasting trade is likewise very great.

There are many extensive and important manufactories in this town. The principal are the glass-houses, in which all kinds of glass are made, potteries, chemical works for making white lead, minium, and vitriol; the copperas used in the vitriol works is extracted from the pyrites which is found in large quantities in some of the coal mines. There are manufactories of every kind of metal, especially wrought iron. Ship-building is also carried on to a great extent. There are barracks covering eleven acres to the north-west of the town. Newcastle returns two members to Parliament. The Boundary Act added several townships to the town and county of the town.

North Shields, a market-town situated on the northern bank of the river Tyne, near its mouth, is about eight miles from Newcastle.

This town, which is of modern and increasing growth, now contains many good streets, two large squares, and a fine market-place. It has a spacious quay, and the harbour is capable of containing 2000 ships. Across the mouth of the river there is a bar, which is not above seven feet deep at low water, but at high water vessels of 500 tons can pass it in safety. The principal trade of the place consists in the exportation of coals to London and elsewhere; some vessels are also employed in the Baltic and American trade. The manufactures chiefly consist of articles required

in and connected with ship-building. There is a cast-iron foundry, a tannery, a tobacco manufactory, and glove and hat manufactories. This town is included in the parish of Tynemouth. It has places of worship for almost every class of dissenters. There are a theatre and a subscription library, a very large school on the Lancasterian system, a dispensary, and other charitable institutions.

Tynemouth, about half a mile from North Shields, is situated at the mouth of the river Tyne. It is a bleak and cold situation for a winter residence, but is a place of great resort during the summer months for sea bathing. It is principally noted for its ancient castle and priory, which stand on a high rock close to the shore. The castle was formerly a place of great strength. After the civil wars of the seventeenth century, it was suffered to fall into neglect until the close of the last century; a fortified battery was raised from the ruins, and a depôt was made for arms and military stores. There are few remains of this ancient fortress except a strong gateway.

The parish of Tynemouth, including the townships of Tynemouth and North Shields, together with the townships of Chirton, Preston and Cullercoats, is represented in Parliament by one member.

Hexham, a market-town, situated on the river Tyne, a little below the junction of the South and the North Tyne, is 20 miles west of Newcastle. It consists principally of one street, which forms the high road between Newcastle, Haltwhistle, and Carlisle, and another street intersecting it at right angles: both these streets are long, narrow, and irregularly built, though they contain some good houses. In the centre is the market-place, a spacious quadrangle, in which there is a fountain, which furnishes a good supply of water to the town. A magnificent cathedral church, founded here in the seventh century, was destroyed by the Danes, and restored by Henry the First. A considerable part of it still remains, and affords interesting specimens of Saxon and Norman architecture. The choir forms the present parish church. There are also two stone towers of great antiquity, one of which is used as a sessions house. The neighbourhood abounds with ruined castles and other relics of antiquity. From some inscriptions which have been found, Hexham is supposed to have been the site of a Roman station. There are manufactures of tanned leather, shoes, gloves, hats, and other articles of trade. The town has a grammar school, with a small endowment. Hexham is the election town of the southern division of the county.

Haltwhistle, 35 miles west of Newcastle, stands on rising ground near the South Tyne. A manufacture of coarse baize is carried on here. In the vicinity are the remains of Thirlwall Castle, formerly one of the boundary fortresses between England and Scotland.

Morpeth, 14 miles north of Newcastle, is on the north bank of the river Wansbeck, which flows also on the east and west of the town. It is situated in a vale surrounded by steep hills, which are well planted. Morpeth is a neat, well-built place, chiefly consisting of three wide streets; in the centre of the town is a square, in which the market-house and town-hall, the latter built by Vanbrugh, are situated. Besides the parish church there is a chapel of ease and three meeting-houses for dissenters. A grammar school was founded here by Edward the Sixth. A bridge, built by Telford, crosses the river, near to which, on the other side of the river, is the county gaol. On a hill not far from this spot are the ruins of a castle. Morpeth has a very large weekly market for cattle and sheep, from which Newcastle, Sunderland, and Shields are principally supplied. By the Reform Act Morpeth sends one member to Parliament. The limits of the borough are very extensive, and include the whole of Bedlingtonshire in Durham.

Bedlingtonshire is about four miles in extent from west to east, and about three from north to south, the whole area of which is one coal-field. The parish contains four collieries and an iron foundry. The coal raised at Netherton, a village on the west, is of most excellent quality. At the same place very fine freestone is found. There is a railway between Netherton and Morpeth. Bedlington is a neat and respectable town, built entirely of stone, and contains some good houses.

Alnwick, a corporate town, stands on a declivity near the river Aln, 30 miles N. by W. of Newcastle. It has a large market-place and a spacious town-hall. It was once a fortified town, and there are still some remains of the walls and gates. At the north entrance of the

town stands Alnwick castle, the ancient and magnificent seat of the Duke of Northumberland. A beautiful column is erected at the south entrance of the town by the tenants of the late Duke of Northumberland, in grateful remembrance of his numerous acts of benevolence. Alnwick is the election town for the north division of the county. It contains several charity schools, and a mechanics' institution. The church is a fine building.

Berwick-upon-Tweed, which is an ancient borough, and virtually a county in itself, is situated on the north side of the river Tweed, within half a mile of its confluence with the North Sea, and 300 miles N. by W. of London. This town, being on the borders, was formerly the scene of many conflicts between the English and Scotch. It is represented by two members in Parliament, and it still enjoys some privileges peculiar to the town and its liberties. The Reform Act added the populous township of Tweedmouth and that of Spittal to the parliamentary borough. The municipal borough of Berwick is included within the provisions of the Municipal Corporation Act. The town is surrounded by walls, upon which a considerable number of cannons may be placed: a saluting battery of twenty-two guns commands the English side of the Tweed; a four and a six gun battery, near the governor's house, defends the entrance to the harbour. The present walls were built in the reign of Queen Elizabeth, and do not extend so far as the ancient fortifications, which are now in decay. The communication between the northern and southern sides of the Tweed is maintained by a bridge of fifteen arches over the æstuary in which the river terminates. Besides the church, which is an elegant building, there are four places of worship for Presbyterians, and three or four meeting-houses for other dissenters. The town-house is a fine structure with a lofty spire; it was built in the middle of the 18th century. The barracks, with the store-house, form a large square, and contain accommodation for 600 men. The town is well supplied with water from springs about a mile and a half without the walls, whence it is conveyed to large reservoirs. Berwick has no manufactures of any importance except an iron foundry, which employs upwards of sixty persons. Its commerce as a seaport is not so flourishing as it was during the period of the last war. Its chief trade consisted in exporting corn, pork, eggs, and salmon, but the fishery has of late years fallen off, and Ireland and the Continent have, since the peace, deprived Berwick of the principal part of its trade in pork and eggs, both of which articles were formerly sent to London to a large amount.

A long and substantial pier, with a lighthouse at the end, has been carried out from the northern shore of the river; but the harbour is ill-adapted for accommodating ships of heavy burthen, for the greater part of it is left dry at the ebb, and the shore is rocky and incapable of being deepened.

There are several charity schools at Berwick, a public subscription library, a naturalists' club, and a dispensary.

Bamborough is a village situated on the coast, 14 miles north of Alnwick. An ancient castle stands here, close to the shore, on a perpendicular rock, accessible only on the south-east side. According to the old chroniclers, it was erected by Ida, king of the Northumbrians, in 548. In the reign of Queen Elizabeth Sir John Forster was made governor of this castle. His grandson obtained a grant of it, and of the manor, from James I.; and Lord Crewe, Bishop of Durham, purchased them from his descendant, and in 1720 bequeathed them to charitable purposes. Dr. Sharpe, one of his trustees, superintended the repairs of the building, which were much wanted, and expended a large sum of his own in furtherance of the charity. Apartments are now fitted up for the education of both boys and girls. The castle also contains an extensive library, an infirmary, and a dispensary. Part of the funds arising from the manor of Bamborough castle are appropriated to the relief of shipwrecked mariners. On the top of the tower continual watch is kept, and when any vessel appears in distress a signal is made to the fishermen of Holy Island, who afford assistance. In 1830, the total income of Crewe's charity was 8,126*l.*

Nearly opposite to Bamborough castle is a group of rocky islets, called the Farn Islands, 17 in number, on one of which, called House Island, three miles from the shore, a lighthouse is erected. These rocks are the resort of a multitude of sea-fowl; and the down of the eider duck is here obtained in considerable quantity. Kelp is likewise collected.

Belford, situated on the Edinburgh mail-road, is 45 miles north of Newcastle. It consists of two principal streets. A few of the inhabitants are employed in weaving, and some are occupied in stone quarries near the town.

Rothbury, 25 miles N.N.W. of Newcastle, stands in a pleasant valley on the left bank of the Coquet. It consists of three streets, containing tolerably well-built houses. The church is a large ancient building. Near the church is a school-house. This place is frequented in summer by invalids for the purpose of drinking goats' whey, and of gaining strength from the bracing air.

Wooler is 43 miles N.N.W. of Newcastle. The town consists of several streets and lanes, with the market-place in the centre. Besides the church there are several places of worship for dissenters. There is a grammar school; and also in the parish a school of industry; besides day schools and Sunday schools.

Coquet Island, situated about a mile from the mouth of the river so called, contains seven acres of good pasture land, and abounds with rabbits. It once contained a fortress, which is now converted into a lighthouse. As early as A.D. 684 there was some religious establishment, connected with Tynemouth monastery, founded in this island.

Holy Island, or Lindisfarn, is about two miles off the main land, in the north-eastern part of the county, from which it is accessible by carts at low water. It is nine miles in circumference, and contains 1020 acres. The soil of one half of it is little better than sand, and is stocked with rabbits; the other half is a tolerable soil, and is inclosed and cultivated. On the west side is a small fishing town, and a castle, garrisoned by a few soldiers from Berwick. This island is supposed to have been once sanctified as the residence of St. Cuthbert, from which circumstance it takes the name of Holy. The remains of the monastery of Lindisfarn are magnificent.

That extensive rampart or wall, called the Picts' Wall, or Roman Wall, which was begun by the Roman general Agricola, and increased and strengthened, by the Emperors Hadrian and Severus, lay chiefly within this county. The first station along the line of this wall on the east side of the island was Segedunum, or Walls' End, between Newcastle and the sea; the second was Pons Ælii, generally considered to be Newcastle; the next in order, proceeding towards the west, were Condercum, perhaps near Benwell, Vindobala at Rouchester, Hunnum at Halton Chesters, Cilurnum at Walwick Chesters on the North Tyne, Procolitia at Carrawburgh, Borcoricus near Haltwhistle, which was the largest station of all, Vindolana, perhaps Little Chesters, Æsica at Great Chesters, and Magnæ at Carvoran, on the border of Cumberland. The remainder of the stations along this line were in the present county of Cumberland, in which the wall terminated at or near Boulness on the Solway Frith. The wall of Severus was about 68 miles long. The works of Agricola and Hadrian were of earth, and there were posts or stations at certain places along the line. The wall of Severus was of stone, strengthened by a ditch, and stations and towers at intervals: the wall is said to have been 12 feet high and 8 thick. These various works, which may still be traced, have given ample employment to antiquarians. (See Hutton's *History of the Roman Wall.*)

There were also Roman towns or stations at Bremenium, supposed to be Rochester, on the river Reed, at Corstopitum, near Corbridge, on the Tyne, and at other places. A Roman road, which has been called the North Watling-street, entered the county from Durham, and passed near Corbridge, where it divided into two branches, one of which ran to Scotland past Bremenium, and another also ran to Scotland, passing to the west of Morpeth, Alnwick, and near Berwick on Tweed. Altars, inscriptions, and other Roman remains, have been dug up in various parts of Northumberland, which, together with remains found in other parts of the north, have made the collection of Roman antiquities at Newcastle the richest in the kingdom: that at Bath is the next. Among the curious remains discovered in this county was an altar* found at Corbridge, with an inscription in Greek to the Tyrian Hercules. (Camden's *Northumberland*, ed. Gibson.)

Population of the market-towns of Northumberland:—

Newcastle	42,760
Morpeth	4,797
Rothbury	2,869

* This altar was of silver, though it is not so stated in the additions to Camden. It appears to be the same as that mentioned in Peere Williams' Reports, (vol. iii. p. 390,) as the subject of a suit instituted for its recovery by the Duke of Somerset, as lord of the manor of Corbridge.

Alnwick	6,788
Wooler	1,926
Belford	1,961
Bellingham	2,590
Allendale	5,540
Haltwhistle	4,112
Hexham	6,042
North Shields	6,744
Tynemouth	10,182
Berwick-upon-Tweed	8,920

Authorities.

Hutchinson's View of Northumberland.

Fuller's History of Berwick-upon-Tweed.

Bayley and Culley's General View of the Agriculture of Northumberland.

Hutton's History of the Roman Wall.

Richardson's Descriptive Companion through Newcastle-upon-Tyne and its Vicinity.

Guide to Newcastle and its Environs, by T. Sopwith, 1838.

Wales.

The general description of the mountains of Wales is given at p. 62.

Glamorganshire

is bounded on the south by the Bristol channel, on the east by Monmouthshire, on the north by Brecknockshire, and on the west by Caermarthenshire. It is of a very irregular form; the coast is about 90 miles in length, including the curves. From the mouth of the Romney to Lavernock Point the coast runs south; it then has a western direction as far as Nash Point, whence it turns to the north-west, and forms Swansea Bay, which lies between Sker Point and the Mumbles. The coast from the Mumbles to Worms Head is generally rocky. The western part of the county, called the Peninsula of Gower, lies between Swansea Bay and the Burry river, which latter washes the northern side of the peninsula. The Loughor, or Llwchwr, which enters the Burry, is the boundary between Glamorganshire and Caermarthenshire. The greatest length of the county, measured due east and west, is 30 miles, and from north to south 25 miles. The area is 792 square miles.

On the north and north-east the county is mountainous. Considerable elevations run in long ranges from south to north, separated by deep valleys, and terminate in Brecknockshire, a few miles beyond the boundary line in a great ridge, which in that county runs from east to west. There are likewise several detached mountains in the north part of Glamorganshire. The Llangeinor, (1860 feet,) between Aberfaron and Llantrissant, is the highest mountain in the county. On the south there extends from the sea-coast for some miles inland the beautiful district called the vale of Glamorgan, which is one of the most fertile tracts of country in Wales. The eastern part of this vale is tolerably level, but the remainder has rather an irregular and even a hilly surface, from the highest points of which there are most beautiful and extensive views of the surrounding country. Many of the hills are richly wooded, and the forests extend down their sides into the valleys. The climate of the vale is so mild and so favourable to vegetation, that myrtles, magnolias, and other tender plants, flourish in the open air. In the mountainous districts the climate is more severe, and the country as it rises in elevation becomes wild and sterile. In the highest part the soil is principally composed of a black peat, except in some of the drier situations, where it is a brown gravelly earth. In the valleys the soil is a brown fertile loam, which yields good crops of corn and grass. In the southern districts the soil is a fine loam, rendered more fertile by the bed of limestone on which in some parts it rests. Towards the coast the land is in general a rich argillaceous earth; and the new red-sandstone occurs in this part of the county. The greater part of the mountainous country is used as pasture for cattle and sheep, and most of the farms are appropriated solely to the dairy. In the vale the usual crops are wheat, barley, and oats, but grazing is followed to such an extent that the consumption of corn in the county is greater than the supply. The chief forest trees are oak, ash, and beech, and other trees common to England, except the elm, which is not indigenous here. Though the soil in many parts yields a good return for the labour and capital expended on it, Glamorganshire derives its chief importance from its rich mineral products. Ironstone, coal, and limestone are abundant, and there are immense establishments for the manufacture of iron in several parts of the county. Though iron is now raised and exported to a very large amount, this branch of industry is of comparatively recent date.

There were formerly no good roads in the county, a circumstance which for

a long time prevented the development of the rich resources of Glamorganshire. By means of railways and canals the rich mineral products now find their way to remote markets; while the abundance of fuel renders it a profitable branch of industry to smelt the ores which are brought from other places. Copper ore is imported from Cornwall, North Wales, and Ireland, and smelted in this county. There are also extensive tin-plate manufactories, for the supply of which the metal is brought in blocks from Cornwall.

All the mineral productions are contained in an immense hollow or basin of limestone, of which Glamorganshire occupies the central part. The southern boundary of this basin includes the whole of Swansea bay and part of the peninsula of Gower, and extends eastward by Llantrissant to the Romney. On the north it runs a little way into Brecknockshire, on the east as far as Pontypool in Monmouthshire, and on the west as far as Bride's bay on the Pembrokeshire coast. It is about 100 miles in length, averaging from 18 to 20 miles in breadth through Caermarthenshire, Glamorganshire, and Brecknockshire, but in Pembrokeshire only from three to five miles. The strata dip towards the centre from the south and north. The deepest part of the basin is between Neath in Glamorganshire and Llanelly in Caermarthenshire. The upper stratum of coal in that district does not extend so much as a mile in a north and south direction, and not many miles in an east and west direction, and its utmost depth is not above 50 or 60 fathoms; the next stratum of coal, and likewise those beneath it, lie deeper and cover a larger space as they recede farther from the surface; these strata are accompanied by parallel strata of iron ore. The strata of coal and iron ore running into Caermarthenshire and Pembrokeshire are a continuation of those of Glamorganshire. These beds of iron extend over a wide range, towards the west stretching from north to south from Llandibie in Caermarthenshire to Llanmaddock hill in Glamorganshire, and on the east from Risca in Monmouthshire to Llangattoch in Brecknockshire, and varying in depth from 600 to 700 fathoms. No ore is yet worked, however, to beyond the depth of 100 fathoms. In Pembrokeshire none of the strata lie above 80 or 100 fathoms deep. In this vast basin there are 12 beds of coal from 3 to 9 feet thick, and 11 more from 1½ to 3 feet thick, together being equal to a solid mass 95 feet thick; there are besides a number of smaller beds. Taking the average length and breadth of these seams, they would include an area of 1000 square miles, containing 95 feet of coal in 23 distinct strata, which will produce, in the common way of working, 64,000,000 tons per square mile.*

The principal rivers are the Romney, the Taaf, the Ely, the Ogmore, the Neath, and the Tawe. Most of these rivers originate in the mountains of Brecknockshire. The Romney forms the boundary between this county and Monmouthshire. The Taaf or Taff, entering Glamorganshire from the north, passes Merthyr Tydfil, and taking nearly a southern course past Llandaff and Caerdiff, falls into the bay of Penarth below Caerdiff; its course is about 35 miles. The Ely has its source more to the south, in the hills north of Llantrissent; passing by that town it takes a winding course to the south-east, and falls into the Severn a little to the south of Caerdiff. The Ogmore rises in the mountains in the central part of the county, and flowing by Bridgend falls into the Bristol channel at the south-east extremity of Swansea bay. The Neath enters Glamorganshire from Brecknockshire, and taking a south-west direction passes by Neath, and falls into the most northern part of Swansea bay; it is navigable for small vessels to Neath bridge. The Tawe enters the county from the north-west, and falls into Swansea bay at Swansea. The Caerdiff canal commences at Caerdiff, and follows the valley of the Taaf to Merthyr Tydfil: its length is about 26 miles, and it rises above 600 feet. About 7 miles south of Merthyr Tydfil it is joined by the Aberdare canal, which is about 7 miles long. These canals are used for the export of iron, coal, and limestone. The Neath canal, which is about 14 miles long, commences in the mountainous country near Aberpergwm, and follows the valley of the Neath to the town of Neath, a little below which it joins the Neath river. The Swansea canal commences in Swansea harbour, and following the valley of the Tawe enters Brecknock-

* Description of the Mineral Basin of Glamorganshire, by Mr. Martin, in Phil. Trans. for May 1806.

shire. It is about 15 miles long, and has a rise of above 350 feet; it is used for the export of coal and other minerals from the mining district. There are several smaller canals. There are also various railways in the county, which are employed for the conveyance of the minerals. A railway connects Bridgend with Porth Cawl harbour, and a branch of the same railway, which penetrates the mountainous district east of Abercafon, conveys the mineral produce of that part also to Porth Cawl. A railroad runs from the point where the Aberdare joins the Swansea canal, northwards parallel to the Swansea canal, to Merthyr Tydfil, and from Merthyr Tydfil is continued into the mining districts. The Taff Vale Railway carries passengers and goods. The South Wales Railway passes from Newport to Caerdiff, thence near Llandaff to Bridgend and Swansea.

This county is divided into ten hundreds—Caerphilly, Cowbridge, Dinas Powis, Kibber, Llangevelach, Miskin, Neath, Newcastle, Ogmore, and Swansea.

The county contains 128 parishes, one city, and seven market towns. Glamorganshire is represented in Parliament by one member.

Caerdiff, an ancient borough, and the county and election town, is situated on the river Taaf and South Wales Railway, 160 miles west of London. It is irregularly built, but contains some tolerably good houses. The principal part of the buildings stand on a plain about a mile from the sea. The town comprises two parishes, but there is only one church, the other having been destroyed by a sudden inundation in 1607. The remaining church, a plain structure of the thirteenth century, stands in the centre of the town. The tower is more modern than the other part of the building, and in a more ornamented style. The town hall is a commodious building; and there is a new county gaol, and a neat theatre. The river is crossed by a good bridge of five arches, erected in 1796. Vessels of 300 tons burthen can come up to the town, and three miles below it is Penarth harbour, which belongs to the town, and is capable of receiving vessels of the largest size. Caerdiff may be considered the port of Merthyr Tydfil, with which it is connected by the Caerdiff canal and the Taff Vale Railway. Tin plates, which are manufactured about four miles north of the town, together with cast and wrought iron, form considerable articles of export. Oats, barley, butter, and poultry, are likewise exported to Bristol. Caerdiff sends one member to Parliament, in conjunction with Cowbridge and Llantrissent.

Caerdiff is said to have been founded in the year 1079. It was formerly a walled town, and had four gates. The remains of the ancient castle are to the north of the town; and the tower in which Robert Duke of Normandy was confined for 26 years by his brother Henry I. is said to be still standing. The castle has been converted into a modern residence.

Merthyr Tydfil is situated in the upper valley of the Taaf, 9 miles from the source of that river, and 25 from Caerdiff. Some miles below Merthyr Tydfil the valley is narrow and bounded by steep hills, but it expands gradually towards the part where the town is principally built. This place depends for its prosperity entirely upon the mineral wealth of the surrounding district, which contains a rich iron ore, as well as coal and limestone. The greater part of the population are employed in mining and smelting. The houses chiefly consist of labourers' cottages, or of small alehouses, and beer-shops, or of retail shops for supplying the working class. The houses are scattered about the valley and on the hills, and fresh groups of houses are continually rising in the neighbourhood of the great works. The amount of population is very fluctuating: a slight improvement or depression in the iron trade increases or diminishes it by thousands. There are 24 furnaces in the parish, the stoppage of only one of which throws out of employment not only a large number of workmen, but many other persons who supply the working population.

Besides the church, which is a plain modern building, there is a chapel of ease and several meeting-houses. The market-place is a miserable, dirty spot, and extremely inconvenient. Notwithstanding the humble condition of the inhabitants, the town has a theatre and two reading societies. About three miles north of the town stands Castell Morlai, an ancient fortress built on the summit of a mountain. It was reduced to ruins in the civil wars of the seventeenth cen-

tury. Merthyr Tydfil was made a Parliamentary borough by the Reform Act, and now sends one member to the House of Commons. The Parliamentary borough is nearly co-extensive with the parish, which is about ten miles long, with an average width of three miles. Dowlais is a chapelry within the parish.

Aberdare is so closely connected with Merthyr Tydfil in its occupations and prosperity, that the description of the one nearly includes that of the other. This town is situated on the Cynon, in a valley surrounded by mountains. The principal part of the town is about 3 miles from Merthyr Tydfil. There is one tolerably good road between the two places, but it is rather circuitous: the direct road over the mountain is barely passable for wheel carriages. From the south end of the parish of Merthyr Tydfil, a branch of the Caerdiff canal runs up to this town, by which the rich products of the district are conveyed to the port of Caerdiff. There are several extensive iron works at Aberdare, from which tram roads or railways are made to the canal for the more easy transit of the manufactured metal. Aberdare was enfranchised by the Reform Act, and made a contributory borough to Merthyr Tydfil.

Cowbridge, a contributory borough to Caerdiff, and an ancient corporate town, is a very small place at present, but appears to have been once a town of importance. One of the old gates is still standing. The quarter sessions for the county are held here. It is situated in the valley of the small river Daw or Thaw, and in the plain of Glamorgan, 12 miles west of Caerdiff. This town has no trade or important manufacture. There are several schools, and among them an endowed grammar school.

Llantrissent, 10 miles N.W. of Caerdiff, is situated near the summit of a high and steep hill, on the edge of the great Welsh coal basin. It commands a fine view of the plain of Glamorgan and the sea. The streets are steep and narrow, and the town contains very few good houses. The church, which is large, is of Norman architecture. The town hall and market place are modern buildings. The hill on which this place stands abounds with lead ore, and on the south of the town there are works for extracting the metal. Llantrissent is a borough contributory to Caerdiff, and is near the South Wales Railway.

The city or rather village of Llandaff is on the river Taaf, about two miles above Caerdiff. Though a bishop's see, it contains very few buildings except miserable cottages. The cathedral is an object of curiosity both to the architect and antiquary. It was founded in the beginning of the twelfth century, but the old building becoming much dilapidated, it was repaired and almost rebuilt about the year 1751. The prevailing architecture is early English, but there are some parts in the Norman style. The dimensions of the cathedral are 300 feet in length, and 80 feet in breadth. The ruins of the bishop's palace are near the cathedral. Owen Glendwr is said to have destroyed the place, and to have greatly damaged the cathedral also.

Swansea is situated on the South Wales Railway, on the west bank of the river Tawe, which falls into the Bristol channel at Swansea bay, close to the town: it is 35 miles west of Caerdiff. Swansea is a prosperous and increasing town, which owes its importance mainly to the numerous copper works and collieries in the neighbourhood. Much steam coal is shipped here. The beauty and salubrity of the situation and the excellence of the sea-bathing have likewise rendered it a well-frequented watering place during the summer season. The town consists of several streets, running from north to south, about three-quarters of a mile, and from east to west about three-eighths of a mile. The houses are generally well built; many of them are lodging-houses, adapted for the accommodation of the wealthiest class of visitors. The parish church is a modern building of large dimensions. There is likewise another small church, besides several places of worship for dissenters. The old castle is in the midst of the town, and though it stands on an elevated spot, it is so surrounded by houses that its otherwise bold and picturesque appearance is entirely lost. The principal part which remains is a lofty circular tower. Those apartments of the castle which are still habitable have been converted into a receptacle for the poor, and a prison for debtors. The common gaol is situated a little to the south of the town, and near to it, and close to the sea, is an infirmary. The town hall is a commo-

dious modern building. There is a free school, endowed in 1684, and also Lancasterian and other schools recently established. A theatre and public rooms have been erected within the last few years. Swansea has a large and handsome pier, one arm of which runs out from the eastern side of the river, and another from the west; a cross pier was added in 1814: the whole encloses a spacious harbour which communicates with the river Tawe, and at low water is nearly dry. The Swansea canal has been already described. A short canal connects Swansea harbour with the river Neath, on the west bank of which it passes close to the town of Neath, and about a mile and a half beyond joins the Neath canal. A third canal on the east side of the Tawe, and about three miles long, communicates with some collieries. There is also a tram road to the Mumbles Head, about five miles south-west of the town, on which a lighthouse has been erected. Several tram and railroads connect the different works, and the canals, and wharfs. A floating harbour with a swing bridge across the river has been projected; at present the only means of crossing the river are by a ferry. Swansea is the great seat of the smelting of copper ores, Cornish, Welsh, Irish, Australian, Cuban, and Chilian. There are copper works at small intervals along the river Tawe — three on the left, and five on the right bank. There are also brass wire works, and two large potteries. The earthenware which is manufactured is of the best quality, and comprises almost every article produced at the Staffordshire works. In 1099 a colony from Somersetshire was brought over to Swansea. The descendants of this ancient colony still continue a distinct race; they intermarry only among themselves, and are quite distinct in their manners and dialect from the other inhabitants of the place. Swansea was formerly a contributory borough to Caerdiff. Since the Reform Act it sends a member to Parliament in conjunction with Neath, Kenfig, Llwchwr, and Aberafon.

Neath, a borough and market town, seven miles N. E. of Swansea, lies principally on the South Wales Railway, and on the east bank of the river Neath, which falls into the Bristol channel, about two and a half miles below the town. It is an irregular, ill-built place, though it contains many good houses. The church is a spacious building, with a square embattled tower. The town hall occupies the middle of the market-place, and has a covered market underneath. The river is crossed by a bridge, up to which vessels of 300 tons can approach; but the trade of the place is principally carried on by large communication with Britton Ferry, which is about $2\frac{1}{4}$ miles below the bridge. Britton Ferry is considered the port of Neath, and through it all the mineral products of the district are exported. Neath is connected with Swansea by the short canal already described; and with the iron works near Aberdare by a tram road which runs to Aberdare from the northern extremity of the Neath canal. The trade of Neath is very considerable. The exports are coal, culm, copper, iron, iron castings, spelter, fire bricks, oak timber, and bark. The imports are copper, iron, and zinc ores, corn, flour, foreign timber, and general shop goods. There are many great copper, iron, and tin works in the neighbourhood. On an eminence to the east of the town are the remains of the old castle. A little to the north of Neath is a beautiful cataract where the water falls over a rock 150 feet high. About a mile below the town are the remains of the abbey of Neath.

Llwchwr, or Loughor, is an ancient borough and also a contributory borough to Swansea, from which it is about eight miles distant to the west. It is a small village, situated near the mouth of the river Loughor; the borough contains about 1000 acres. There are a colliery, some small zinc works, and a manufactory for pyroligneous acid. Ships of 200 tons burthen can come up to the village. There is a bridge over the river. Loughor is probably on the Roman site of Leucarum. There are two small Roman camps east of the town.

Aberafon is a borough and small town near the mouth of the river Avon, an inconsiderable stream which flows into the bay of Swansea. It is seven miles from Swansea, direct distance. The river is navigable for a short distance from its mouth; and the hills which bound the narrow valley through which the Avon runs are rich in iron stone and coals. These circumstances have caused some important manufactories to spring up in the immediate neighbourhood of the place. The principal are two tin-

plate works, on the left bank of the river, and the British Copper Company's establishment at Taf-bach, about three-quarters of a mile from the town. A new floating harbour has been made.

Kenfig is a straggling village, about 12 miles direct distance south-east of Swansea. It has no manufactures or trade, but it is one of the most ancient municipal boroughs in Wales, and is now a contributory borough to Swansea. The town was ruined by a great inundation in the sixteenth century.

Bridgend, a market town on the river Ogmore, which is here crossed by a stone bridge, is one of the polling places for the county, and about eighteen miles west of Caerdiff. It is tolerably well built, and has a neat town hall. It has also a woollen manufacture. The river abounds with salmon and trout.

Caerphilly is a small market town seven miles north of Caerdiff, near the Romney. It contains a few good houses. The neighbourhood abounds with coal and iron ore, but there are no smelting works. It has a woollen manufacture. There are considerable remains of the walls and rooms of the ancient castle of Caerphilly. The great hall, of which a large part exists, is 70 feet long and 30 wide.—Porth Cawl is a harbour with a railway to Duffryn, Llynvi.

Glamorganshire was in possession of the Romans during their occupation of this island, as appears from various encampments which still exist. A Roman road, Julia Strata, crossed the county from east to west. The castellated and ecclesiastical remains are numerous: besides the castles of Caerphilly, Neath, Caerdiff, and Swansea, there are the remains of Coity castle near Bridgend, which are very extensive, and those of Oystermouth at the eastern extremity of Swansea Bay, those of Ogmore castle, St. Donatt's castle, and several others. Of Margam abbey, a few miles south-east of Neath, there are considerable remains: the walls of the chapter-house are still standing. The church of Ewenny, near Bridgend, which belonged to the Benedictine priory, is now used as a parish church. There was a college or seminary at Llantnit, of which there are also some remains.

BRECKNOCKSHIRE

is an inland county, bounded on the south by Glamorganshire, on the south-east by Monmouthshire, on the east by Herefordshire, on the north-east and north by Radnorshire, and on the west by Cardiganshire and Caermarthenshire. Its greatest length from north to south is 37 miles, and from east to west 30 miles: the area is 754 square miles. The surface is very irregular, and it contains the most elevated tract of high land in South Wales. It is traversed by two principal mountain ranges: one on the north, called the Epynt, runs in a north-east direction, and the other on the south, which belongs to the range of the Mynyd Du, or Black Mountains, or Forest Fawr, runs from west to east: between these two ranges is the valley of the Upper Usk. Brecknock Beacon, in the southern range, about five miles from Brecknock, is considered the highest point in South Wales, being 2,862 feet above the level of the sea. The Capellante mountain in the same range is 2,394 feet high. A tract of high ground on the east side of the county extends from Talgarth to Crickhowell, and contains the Cradle mountain, which is 2,545 feet high.

The central and south-east part of this county is occupied by the old red sandstone. In the west part of the county there are grauwacke slates. There are no minerals in this county, except a little copper, which is not worked; and a small tract of coal and ironstone near the borders of Monmouthshire.

There is great variety of soil. On those parts of the mountains which are level enough not to allow the upper soil to be washed away, it consists of a red loam, which is also found at the base of these mountains, where it is thickly deposited from the crumbling of the steep sides, and forms a soil of great fertility. In the vale of Usk the soil is a light sandy loam: to the northward it is more fertile and tenacious. On the north-west, the soil is a dark brown peat, from 6 to 12 inches in depth, with a clay bottom. The vale of Wye has a brown gravelly soil, which as the valley widens is changed to a fine rich loam. The east part of the county, comprising the vales of the Usk and Wye, is the most fertile, and produces a considerable quantity of wheat. Cider is also made in this part. Oats and barley are the chief crops in the other parts of the county. On the mountains small black cattle and sheep are fed. Owing,

however, to the rough character of the surface, about a third of the whole land is entirely waste and unfit for cultivation, and it is very bare of wood. The minerals are copper and lead, besides iron, coal, and limestone. Most of the iron works are on the borders of Monmouthshire. There are some very extensive iron works near the source of the Romney river and at Llanelly.

The principal rivers are the Wye, the Usk, the Irvon, Tawe, and Taaf. The Wye forms the boundary between this county and Radnorshire for about 34 miles: it contains a great variety of fish, as salmon, trout, grayling, pike, and perch. The Usk rises in the Black Mountains, south-west of Trecastle, and takes a winding direction to the east as far as Brecon, whence it has a south-east course by Crickhowell, about two miles below which town it enters Monmouthshire. That part of Brecknockshire, which is north-west of the Epynt, chiefly belongs to the basin of the Wye. The Irvon, or Yrfon, which joins the Wye near Builth, belongs to this part of the county. The central part of the county chiefly belongs to the upper basin of the Usk, and a small part of it to that of the Wye. All the waters from the south side of the Mynyd Du, which forms the southern boundary of the basin of the upper Usk, flow into Glamorganshire. The Tawe rises on the southern side of the Black Mountains, and passes into Glamorganshire near Ystradgynlais. The Taaf rises near Capellante and enters Glamorganshire two or three miles from Merthyr Tydfil. About five miles to the E.S.E. of Brecon is a lake which is about five miles in circumference; this lake, as well as the rivers of the county, abounds in fish.

The Brecknock canal, which extends from Brecknock to Newport, follows the valley of the Usk from Brecknock past Crickhowell to the borders of the county near Abergavenny in Monmouthshire. A railroad from Brecknock to Hay, on the east side of the county, is continued from Hay through a small part of Herefordshire to the Wye below Bettws chapel. A railroad from the Tredgar iron-works, which are just within the border of Monmouthshire, communicates with the Brecknock canal about halfway between Brecknock and Crickhowell; and another line from the same mining district communicates with the Brecknock canal below Crickhowell just on the borders of Brecknockshire and Monmouthshire. A short part of the Swansea canal is in the south-west part of the county, and from the northern extremity of this canal a railroad runs across the Forest Fawr to the Usk, which it strikes about two miles east of Trecastle.

A great deal of rain falls in Brecknockshire, and the mountainous tracts are cold and wet. In the lowest part of the valleys of the Usk and Wye, the climate is moderate and healthy.

Brecknockshire is divided into six hundreds, containing 69 parishes, and 4 market towns. The hundreds are Builth, Crickhowell, Devynnock, Merthyr, Penkelly, and Talgarth. The county sends one member to parliament.

Brecon, or Brecknock, a borough, and the county and election town, is 168 miles W.N.W. of London. It principally consists of four or five irregular streets, the houses of which are rather meanly built. It is in a picturesque situation at the junction of the Hond-du and the Usk: there is a bridge over the Usk, and several bridges over the Hond-du. Brecon is a very old town, and is by some supposed to have been a Roman station. It had formerly a wall and ditch, with five gates. A strong castle was erected at Brecon in the reign of Henry I.: all that now remains is the armoury, part of the walls, and one of the towers, which serves as an armoury for 15,000 stand of arms and 1500 swords. To this is attached an arsenal, a substantial brick building, two stories high, 99 feet long and 35 broad. There are three parish churches and four meeting-houses for dissenters. The Priory church, which is now the principal church in Brecon, formerly belonged to the Benedictine priory of Brecon. The chief manufactures are flannel and woollen cloth, but the town derives a great part of its importance from being a central point for the supply of the rest of the county. There are barracks at Brecon, and an infirmary. The town is lighted with gas. There are Lancasterian schools, a small grammar school, and another charity school. Brecon sends one member to parliament.

Builth, a small town, 14 miles north of Brecon, is a very ancient place, supposed to be the Bullæum of the Romans, Roman antiquities are occasionally found

here. The town, which is situated on the banks of the river Wye, consists chiefly of one long street, containing some tolerably built houses. There is a small stocking manufactory. About a mile north-west of Builth are some saline springs.

Talgarth, another small town, is 8 miles E.N.E. of Brecon.

Crickhowell is situated near the Usk, 13 miles E.S.E. from Brechin. A bridge of 14 arches crosses the river. Near Crickhowell are the vestiges of an ancient castle, and of an encampment, supposed by Leland to be the Cragus Hoclinus of the Romans.

Hay, on the Wye, is a small market town.

Caermarthenshire

is bounded on the east by Brecknockshire, on the south-east by Glamorganshire, on the south by the Bristol Channel, on the west by Pembrokeshire, and on the north by Cardiganshire. Its extreme length from east to west is 45 miles, and from north to south 29 miles: the area is 974 square miles.

The surface of the country may be described as generally consisting of steep hills and fertile valleys. The hills are bleak, and in some parts rise to a considerable elevation. The highest summit of the Black Mountains, which are also partly in Brecknockshire, is 2859 feet above the sea. The vale of Towy, which extends from the south in a north-east direction, is 30 miles in length, but it seldom attains more than two miles in breadth; it is extremely fertile and picturesque; the soil is of a light brown or red mould, well adapted to the growth of wheat or oats. On the higher grounds the soil is of a cold blue or yellow clay, or a dark brown peat on a clayey substratum. The last description of land is applied to pasturage, and feeds numbers of black cattle and horses, which form a considerable article of export. The native sheep are small, but the South Downs have been introduced with success. Barley and oats are the principal crops on the arable lands; oats are raised in sufficient quantity for exportation to Bristol. Limestone abounds in this county, especially on the sea coast near Laugharne, near Kidwelly, and on the Black Mountains. The district between the range of limestone and the southern borders is principally occupied with coal-beds intermixed with iron ore. The land is much more fertile where the substratum is limestone than where there are beds of coal or iron ore. Marble quarries are worked in the parish of Llangendearne, and there are lead-mines in the vale of Towy, about six miles from Llandovery.

The principal rivers are the Towy, the Cothy, the Teify, the Taaf, and the Llw.

The Towy rises in an extensive morass in Cardiganshire, and at a short distance from its source is joined by the lesser Towy, which rises in the same morass. Near their junction the river enters Caermarthenshire, and taking a southern course passes through Llandovery, from Llandovery it continues by a winding course in a south-west direction to Caermarthen, and falls into the Bristol Channel. This part of the British Channel is called Caermarthen Bay; it is formed by the coast of Caermarthenshire receding further inland than the coasts of Pembrokeshire and Glamorganshire. The river Cothy rises in the north part of the county, and falls into the Towy, about seven miles above Caermarthen. The Towy has several other tributary streams. The Teify rises in Cardiganshire, forms the boundary between the counties of Cardigan and Pembroke, and falls into the Irish Channel. The Taaf and the Corwen rise on the west, unite near St. Clare, and fall into the bay of Caermarthen at Laugharne. The river Llw has its source in the Black Mountains, and forms part of the boundary between Caermarthen and Glamorganshire. All these rivers abound in fish, which are likewise plentiful in a small lake situated on the highest part of Mynydd Mawr, or the Great Mountain, which is a few miles to the west of Lland-y-bie. The South Wales Railway is to pass by Llanelly and Caermarthenshire to Fishguard and Pembroke. The Llanelly Railway runs up the valley from the river of that name.

This county is divided into eight hundreds, consisting of 81 parishes, and containing eight market towns. It returns one member to parliament.

Caermarthen, the county town, is 212 miles west of London. Caermarthen sends a member to the Commons' House, in conjunction with Llanelly. The limits of the elective franchise are much more extensive than those of the

town. Caermarthen is situated in a valley on the banks of the river Towy, about 20 miles above its mouth. The streets are steep and irregular, but the houses are better built than is usual in Welsh towns. The church, which is a large building, stands without the town. The Guildhall is a neat stone building, supported on Ionic pillars, beneath which is the market-place. The county gaol, which occupies the site of an ancient castle, is arranged on Howard's plan. The river is crossed by a handsome stone bridge, consisting of six main arches, and four smaller arches in the parapet at the south end to admit the passage of the waters during the floods. The river is navigable up to the bridge for vessels of 200 tons burthen, and the town is consequently the depôt from which a great part of the county of Cardigan, as well as Caermarthenshire, is supplied with timber from the Baltic; and with colonial produce, wine, groceries, and dry goods, coast-wise. Caermarthen exports considerable quantities of butter, oats, oak bark, leather, and lead ore. A manufacture of tin plate and iron was formerly carried on to a considerable extent; cordage was likewise manufactured, and a few vessels are built.

Llanelly is situated on the South Wales Railway and an estuary formed by the river Loughor and the sea. The town is on the west bank of the river, about 17 miles from Caermarthen, to which it is a contributory borough. The town is small, and irregularly built. The church is remarkable for having two steeples, one of which terminates in an embattled parapet, and the other in a spire. Llanelly derives importance from the mineral productions in its vicinity. Coals and iron are found in abundance; the coal, which is of a peculiarly fine quality, is exported to France and to the Mediterranean for the use of steam-boats. The borough contains four large collieries, and three more within two miles of it, besides two stone-coal collieries. There are also two iron foundries and two copper works, and iron and copper cakes and sheathing are exported. The ore for the copper works is imported from Cornwall. There are three docks, one of which is a floating basin, capable of admitting vessels from 150 to 180 tons burthen. A fourth will admit vessels of 500 tons burthen. This town communicates with Kidwelly partly by a tram road, and partly by a canal. Another railroad into the country has been constructed called the Llanelly.

Kidwelly, an ancient market town, 10 miles south of Caermarthen, is situated on the South Wales Railway and in an inlet of the bay of Caermarthen, on the banks of the lesser Gevendraeth. The new town, as a part of it is called, is on the east side of the river, and the old town on the west; a fine stone bridge connects the two towns. Owing to the more eligible situation of the new town, the old town is falling into decay; it was formerly walled and had three gates, of one of which there are still some remains. The parish church, which is in New Kidwelly, is a neat building, with a tower surmounted by a spire, the whole being 165 feet high. There are several places of worship for dissenters, and also a grammar school.

The extensive castle of Kidwelly stands on a rocky eminence on the north side of the old town: great part of it is still entire. Kidwelly is principally a trading town; it exports the coal and iron, which is abundant in the neighbourhood, but the trade has suffered in consequence of the obstruction to navigation caused by a sandbank in the river. An attempt, however, has been made to remove this obstacle, and to improve the port. The coal-pits are four or five miles from the town, to which the coals are conveyed by a canal. There is a tin manufactory and an iron foundry near the town.

Laugharne, a market town, situated on the estuary formed by the united waters of the Taaf and the Corwen. It is a small but a respectable-looking town, about 13 miles from Caermarthen. There are the remains of a fine old castle still in good preservation. There is a good parish church, and some dissenting meeting-houses.

Llandeilo Vawr, a market town on the western banks of the river Towy, is 13 miles east of Caermarthen. The streets are irregular, and the houses in general ill built; the surrounding country is beautiful. The church stands in the centre of the town. There is a substantial but very narrow stone bridge over the river. There is a manufacture of flannel carried on in this town. The remains of Dinevor or Dinasfawr castle stand on a bold precipitous eminence in

a most picturesque situation; this place was once the residence of the native princes of Wales.

Llangadock, a small market town between the rivers Swathy and Brann, was once much more considerable than it is at present. Coarse woollen and stockings are manufactured, but chiefly for home consumption. It has a bridge over the Towy of five arches.

Llandovery, a market town, is situated on the confluence of the river Towy with the Brann, about 27 miles from Caermarthen. It consists of a few straggling streets. There are some slight vestiges of an ancient castle on a rocky eminence near the town, on the western bank of the Brann. Over the Towy are a stone bridge and a suspension bridge.

Newcastle Emlyn is situated on the banks of the Teify, about 10 miles from Cardigan, and 20 from Caermarthen. On the opposite side of the river is Adpar, in Cardiganshire; these two places are connected by a bridge, and together form one town. This place has no trade of any consequence, but it is a very important central point for the sale of cattle for the English market. Eleven cattle fairs are held in the year. There are the remains of an ancient castle. This town is one of the contributory boroughs to Cardigan.

Pembrokeshire

is a maritime county bounded on the east by Caermarthenshire, on the north-east by Cardiganshire, on the north and west by the Irish Channel, and on the south by the British Channel. It is of a very irregular form; the greatest length from east to west is 25 miles, and from north to south 33 miles. The area is about 616 square miles.

The surface of the country is diversified by hills and valleys, but it seldom assumes a mountainous character, except in the north part of the county, where a range extends eight or ten miles in a direction due east and west. This range is called the Precelly Mountains.

The loftiest summit, which is a little to the east of the central part of the range, is 584 yards high, and is a conspicuous object. In some parts of this county there are remarkable masses of rock, which, when seen from a distance, appear like ruins of buildings. They are supposed to be the skeletons of hills, from which the soil has been washed away by the rain. The woodlands of this county are not extensive. Plantations are most abundant in the neighbourhood of Slebech and Picton Castle, situated on the upper part of Milford Haven. The coast is deeply indented and irregular. On the south-west is a deep inlet, which from its entrance expands into a large sheet of water, extending eastward more than 20 miles inland, and branching out into numerous creeks. On the west the shore is hollowed out into a curve terminating in two points; this part is called St. Bride's Bay. Another bay called Fishguard is on the north, but it is much smaller. Several islets lie near the coast of Pembrokeshire. On the south-east is the isle of Caldy, which contains about 611 acres, and 87 people. St. Margaret's island has 22 people. On the west beyond St. Ann's Head, are the islands of Skokham, with six people. Grasholm, and Skomer, and at the other side of St. Bride's Bay, about four miles west of St. David's, is a dangerous cluster of rocks, called "Bishop and his clerks;" on the three largest sheep are depastured, the others are the retreat for numerous sea-fowl.

The soil of this county is various. The greater part is composed of dark grey loam; a stony red loam on red argillaceous rock sometimes occurs; a light spongy peat forms part of the soil, and on the south there is a rich loam of considerable depth on a substratum of limestone. Wheat, barley, and oats are the common crops, rye is likewise raised in some parts. Pasturage forms a principal feature in the husbandry of this county; the breed of black cattle is in great demand in the English markets; and a considerable quantity of butter is made for home consumption and for exportation. Lead has been found, and lead mines worked with some advantage on the banks of the Tare, in the parish of Llanvyrnach. On the southern side of the county, stone-coal and limestone are found; the coal is inferior to that of the same kind in Glamorganshire and Caermarthenshire.

The principal rivers are the West Cleddy and the East Cleddy.

The West Cleddy rises in the parish of Llanfair, and taking a southern direction falls on the western extremity of Milford Haven. The East Cleddy rises in the parish of Monachlogddu, and

taking a south course falls into the eastern extremity of Milford Haven.

The South Wales Railway is proposed to proceed by two branches, one to the north-west to Fishguard for the packet station to Ireland, and the other to the south-west to Pembroke with a short line to Tenby.

Pembrokeshire is divided into seven hundreds, containing 133 parishes, one city, and seven market towns. The hundreds are Castle Martyn, Ross, Dewisland, Dungleddy, Narberth, Kemess or Fishguard, and Kilgerran or Newport. This county is represented in parliament by one member.

This county contains both British and Roman remains; Druidical circles and cromlechs are numerous. The county is traversed by two Roman roads; and there are vestiges of numerous castles belonging to the Welsh princes.

Pembroke stands at the extremity of one of the inlets of Milford Haven, about nine miles from the east entrance of the Haven, and 266 miles west of London. It sends one member to parliament in conjunction with Tenby, Wiston, and Milford. This place is supposed to be of great antiquity. It was once a walled town, and on the northern side there are still considerable remains of a strong wall flanked by bastions of great thickness; one of the gates is also standing. The town principally consists of one street west, with another at right angles to it. There was a castle strongly fortified erected in 1092, the ruins of which still give evidence of its former grandeur and magnificence. The town principally consists of one long street extending from east to west on the ridge of a hill along the shore. There are two parish churches, one of which is of great antiquity, a town hall and a free grammar school. Pembroke Dock is more than a mile from Pembroke on the north-west. The government dockyard was removed to this place from Milford, in 1814, and a town was formed here. It has a steam-boat establishment.

Milford stands on the northern side of the inlet, nearly opposite to Pembroke, and six miles W. by N. of that town, to which it is a contributory borough. This town is little more than 45 years old; it was formed in consequence of the convenience of its situation, and an Act was passed in the 30th year of Geo. III. to establish quays, docks, and a market-place, on or about this spot. The town is built with great regularity and neatness. It is a place of considerable resort for shipping, having a packet and quarantine establishment, and on account of the general convenience of the harbour for vessels. The business of the dockyard is now removed to Pembroke, but there are private docks at which vessels are repaired, and where ships of 100 tons are built. Steam-packets convey the mail and passengers between this place and Waterford in Ireland. Coals are brought to Milford for the supply of the steam-packets, from a place about 16 miles further up the haven. Lime is exported; American timber is imported for ship-building and for domestic use, and there is a small importation of Baltic produce.

Haverfordwest, now considered the capital of Pembrokeshire, is situated on the river Cleddy, a little beyond the western extremity of Milford Haven creek, and 17 miles north of Pembroke. This town sends one member to parliament in conjunction with Fishguard and Narberth; it is also the election town for the county. Haverfordwest is built on the sides and at the base of some steep hills. The streets are narrow, ill-paved, and steep, but there are many excellent houses. There are three churches in the town, and one in the suburbs, besides other places of public worship. The Guildhall stands in the centre of the town. A town and a county gaol have recently been erected, and there are several other public buildings and institutions. The keep of the ancient castle is still entire. A little to the south-east of the town, near the river, are the remains of a priory. There is little business carried on, and the only manufactures are two paper mills and a small woollen factory. The trade is extensive; the imports consist of articles for the supply of the surrounding country; "the exports are butter, oats, and cattle;" the latter in great numbers for the English market. Coal of an inferior kind is obtained about three miles from the town. Vessels of 100 tons can come up to Haverfordwest, only at spring tides. The river abounds with salmon, trout, and eels.

Sixteen miles to the north-west of Haverfordwest is St. David's, which is now little better than a village, which is designated a city, and is an episcopal

see. It is situated about two miles from the shore. It contains nothing worth notice except the cathedral and bishop's palace, which stand a little to the south of the town. The architecture of the cathedral indicates that it belongs to the time of John and of Edward III. It is 307 feet in length. About a mile from St. David's there is a holy well, which is still considered efficacious for the cure of many disorders.

Fishguard is on the north coast of Pembrokeshire, at the head of Fishguard Bay, which forms a safe and commodious harbour. The bay is about three miles from east to west, and nearly two from north to south. The town, which is about 16 miles north of Haverfordwest, is divided into the upper and lower parts. The upper town is principally on a very steep hill, at the foot of which the river Gwaine flows through an almost precipitous ravine. The lower town is almost entirely in the bottom on the right hand bank of the Gwaine. The whole is irregularly built, and the church is a mean edifice. During the late French war this place was much more active and prosperous. A considerable herring fishery also was formerly carried on here, but it has latterly become unproductive, and is now merely continued for the supply of the immediate neighbourhood. The exports are corn and butter; the imports coal and culm, lime-stone, shop goods, and timber. Fishguard is one of the contributory boroughs to Haverfordwest. The South Wales Railway Company propose to make it a great steamboat station to Wexford and Waterford, and to compete for the Dublin traffic with Holyhead.

Newport is a small seaport, about seven miles to the east of Fishguard, situated in a bay near the mouth of the river Nevern. It is at present a very inconsiderable place, but it contains many interesting remains of former prosperity. In the middle of the sixteenth century it was visited by a kind of plague which nearly depopulated the place, and from which it has never recovered. There are the ruins of a castle near the town, and in the neighbourhood there are a great number of Druidical remains.

Narberth, a contributory borough to Haverfordwest, is on the South Wales Railway, and on the high road from London to Milford Haven. It is the central point to a very large district for the supply of articles for domestic consumption. The cattle fairs held here are attended by a great number of persons from the neighbouring country. There is a manufacture of hats. The town is ill-built and not paved, but it is considered an improving place. A little to the east of the church, which stands to the south of the town, are the remains of an ancient castle. On the west is a common, which is the property of the town.

Tenby is a market town near the sea, about seven miles east of Pembroke, to which it is a contributory borough. It stands on a rocky promontory in the bay of Caermarthen, and is much frequented as a watering-place on account of the great beauty of its situation. At high water it is surrounded on every side, except the north, by the sea. This town was formerly a place of some importance; but the trade and manufactures have gradually declined, and it is only within the last twenty years that most of the good houses have been erected. Tenby is now neat and well-built, and the streets are in general good, though in some parts they are very narrow, and inconveniently steep. The church, which is a large building, is situated in the centre of the town. There are still remains of the old castle of Tenby. A branch railway is contemplated by the South Wales Railway Company.

Wiston, about four miles and a half north of Haverfordwest, is a contributory borough to Pembroke, but it scarcely deserves the name of a village.

Cardiganshire

is a maritime county, bounded on the south by Pembrokeshire and Caermarthenshire, on the east by Brecknockshire and Radnorshire, on the north by Montgomeryshire, and on the west by the Irish sea. Its greatest length from north to south is 45 miles, and its greatest breadth from east to west is 32 miles; the area is about 675 square miles.

The surface of this county is extremely mountainous, and it contains no level of any great extent. These mountains are in general destitute of wood, and present a bleak appearance; towards the north and east they are used as sheep-walks; cattle are fed in the narrow vales. The soil of the ele-

vated parts is chiefly a light loam, intermixed with sand. The valleys of the lower districts have a brown mould, which is extremely favourable to the growth of grass crops. In other parts the soil is a stiff argillaceous earth, and very sterile. There are also large tracts of peat or moss, which is used for fuel. The principal crops are barley and oats; wheat is not grown in sufficient quantity for the supply of the inhabitants. Rye is cultivated in the hilly districts; buck wheat, grey peas, potatoes, and some of the artificial grasses, are likewise known. The mineral productions are silver, lead and copper; great quantities of these metals were obtained here during the seventeenth century, but the mines have since declined in value, although it is thought that they might still be worked with advantage if fuel were not so scarce. The principal rivers are the Teify, the Rheidiol, and the Ystwith.

The Teify rises in the mountains, in the north-east part of the county. After flowing by Tregaron and Llampeter, it forms the boundary between this county and Caermarthenshire and Pembrokeshire, passes by Cardigan, and falls into the Irish Channel. The Rheidiol has its source on the west side of the Plinlimmon mountains, and, after flowing through a beautiful vale, receives the waters of the Mynach: it then has a winding course towards the west, and passing near Aberystwyth joins the Ystwyth. The Ystwith rises near the borders of Montgomeryshire, and flows through a deep ravine till it reaches the romantic grounds of Hafod, and then taking a north-west direction falls into the Irish sea. The Aeron rises near Blaen Ponat, and passing by Llangeitho with a circuitous course, falls into the sea near Aberayon. Several other streams rise in this county, and though inconsiderable, sometimes swell into impetuous torrents. Most of the rivers have their rise in lakes, which are numerous, though small.

The sea-coast presents a tolerably regular concave line, which, with the projection of Caernarvonshire on the north, and of Pembrokeshire on the south, forms the capacious bay called Cardigan bay. Fish is very abundant on this coast.

Cardiganshire is divided into five hundreds, containing 65 parishes, and five market towns. The county is represented by one member.

Cardigan, the county town, situated on an eminence on the north bank of the river Teify, is 231 miles from London. It was once a walled town, and had a castle, but there are few remains of either the wall or castle. The town consists of two or three principal streets, which contain some respectable residences, but most of the houses are small and indifferently built. The church is an ancient and substantial structure. A town hall was erected in 1764, and a county gaol in 1793. A free grammar school was established by Lady Cornwallis. The river is crossed by a stone bridge of seven arches. Vessels of 300 or 400 tons burthen can come up to the town in spring tides. The entrance of the harbour is extremely dangerous in winter, and the general trade is confined to vessels of from 15 to 100 tons burthen. This town has no commerce or manufactures of any importance. It sends one member to parliament in conjunction with three other boroughs: Adpar, the continuation of Newcastle Emlyn in Caermarthenshire, is one of them.

Llampeter, a small straggling town 29 miles from Cardigan, is also one of its contributory boroughs. It is situated on the west bank of the Teify, on the borders of Caermarthenshire. This place has no trade, but there are three large cattle fairs and ten smaller ones. A college for the education of the Welsh clergy was founded here in 1822, and endowed with six livings: it was opened for the reception of students in 1827. There is sufficient accommodation for 70 students; there are professors of Greek, Hebrew, Welsh, and theology, and the students can graduate in the University of London.

Aberystwith, one of the contributory boroughs to Cardigan, is about 39 miles north-east of Cardigan. Its name would lead one to suppose that it stands on the river Ystwith, but it is at the mouth of the Rheidiol, and on the right bank of that river. The Ystwith enters the sea about half a mile from the left bank of the Rheidiol. Acccording to old accounts, the Ystwith and Rheidiol united before entering the sea; a statement which is still generally made in modern books, though the rivers have no distinct mouths, as already mentioned. It was formerly a walled town, and there are still the remains of a castle, which is situated on a point of land projecting into the sea. Aberystwith is now a

favourite watering-place. The commerce of the town can only be carried on in small vessels, owing to there being a bar at the entrance of the harbour which scarcely allows vessels of 250 tons to pass without danger. In 1836 an Act was passed to improve the harbour. There are fisheries of cod, whiting, herring, and mackarel. The parish church is in a neighbouring village, about a mile south-east of the town, but there is a chapel of ease in Aberystwith. The town hall, with the market place, is in the principal street. A small theatre has been erected for the amusement of the visitors. There are hot and cold baths, and a chalybeate spring. The river Rheidiol is crossed by a stone bridge of nine arches at the town. Many vessels were formerly built here, but this branch of business has declined. The custom-house of the port is at Aberystwith, which, together with the circumstance of there being no other market-town within 18 miles, adds something to the importance of the place. There is an Act for water-works.—Tregaron a town with 692 people.

About 20 miles from Aberystwith is a bridge across a deep cleft in the rocks, beneath which flows the river Mynach, a branch of the Rheidiol. This is popularly known as the Devil's Bridge, from the superstitious notion of its having been formed by supernatural agency. The monks of Ystradfflur, or Strata-florida Abbey, are, however, considered really to have executed the work. It is also called Pont-y-Monach. The approach to the old bridge being found very steep and inconvenient, another was erected over it in 1753. The scenery in the neighbourhood of this bridge is extremely picturesque.

Radnorshire

is an inland county, bounded on the west by Cardigan, on the south-west and south by Brecknockshire, on the east by Herefordshire, and on the north by Shropshire, and Montgomeryshire. Its shape is an irregular triangle, with the vertex to the south: the greatest length from north to south is 26 miles, and from east to west 33 miles. The surface is about 426 square miles.

The general character of this county is bleak and mountainous. The range of Radnor Forest, the highest land in the county, has a general direction from south-east to north-west: it is a desolate tract without trees. The most elevated portion of Radnor Forest is about 2160 feet above the sea level, and there are parts nearly as high. The Forest originally belonged to the Crown, but was sold in the reign of Charles II., and is now the property of a private gentleman, who as forester is representative of the Crown. Along the rivers there are valleys which contain a considerable extent both of arable and meadow land. The vale of Wye-side, and of Radnor in particular, have a fertile soil and a tolerably mild climate. In some level tracts on the east and south, grain is raised; but in most other parts of the county, the climate is too cold and the soil too barren for the cultivation of grain. The district which juts out on the north-west is an absolute desert, It is a tradition that in this spot Vortigern found a retreat after having imprudently called in the English to his assistance. Cattle and numerous flocks of sheep feed on the mountains: indeed, the rearing of sheep and the sale of wool are the principal business of the inhabitants. At present the woodlands of this county are confined to a few coppices, in which game is found abundantly. A lead mine has recently been opened in Caen Elan, and some lead and copper ores have been found in the neighbourhood of Llandrindod Wells. On the south-east, limestone of excellent quality is obtained.

The principal rivers are the Wye, the Ithon, the Teame, the Lug, and the Edwy. The Wye rises in Montgomeryshire, and entering this county on the north-west passes by Rhayader, a few miles south of which place it forms the boundary between Radnorshire and Brecknockshire. The Ithon rises on the north, and taking a winding course through the centre of the county falls into the Wye. The Teame has its source near to that of the Ithon, and thence forms the boundary between this county and Shropshire. The Lug rises on the north-west, and after a short curve enters Herefordshire near Presteign. The Edwy falls into the Wye about four miles below Builth. The Elan falls into the Wye a little above Rhayader.

At Llandrindod, about seven miles north of Builth, are three kinds of medicinal springs—saline, sulphureous, and chalybeate

Radnorshire is divided into six hundreds: Colwyn, Refenlys, Knighton, Paincastle, Radnor, and Rhayader, which contain 52 parishes, and two market towns. The county is represented by one member.

New Radnor, the county and election town, is 156 miles W.N.W. of London, at the entrance of a narrow pass between lofty hills. The Somergill, a small stream, runs very near the town. Radnor is an ancient town, and was once fortified by high walls and deep moats, but at present it merely consists of a few miserable houses, forming an irregular street. There are still some remains of the castle walls near the village. It has a church, a town hall, and a gaol, and is still a borough, and in conjunction with five others sends one member to parliament. This parliamentary borough includes about one-fifth part of the county. Numerous sheep are fed on the neighbouring hills, and the whole population are employed in agriculture and the business immediately connected with it. Old Radnor is a small village about two miles south-east of New Radnor. The parish of Old Radnor comprises six townships: the living is a rectory, which belongs to the dean and chapter of Worcester.

Presteign, on the south banks of the river Lug, on the borders of Herefordshire, is eight miles N.E. by E. of Radnor. It is situated in a fertile and well-cultivated valley. This place has recently risen from the condition of a small village to that of a respectable market town. It consists of four principal streets and some smaller ones: the streets are well paved, and the houses well built. The church is a very ancient structure; and there are several dissenting chapels. There is a grammar school, founded in the reign of Elizabeth, and several other charity schools. Presteign is the assize town of Radnorshire, and one of the contributory boroughs to Radnor. There was once a woollen manufactory, but at present no manufacture of any kind is carried on. A great quantity of malt is made in the town, and it has also some trade in timber, which is brought from Herefordshire and Radnorshire. Coal is generally brought from the Clee Hill in Shropshire by land carriage. Near Presteign there is a small insulated part of the county of Hereford, which is completely surrounded by the county of Radnor. Presteign is one of the polling places for the county.

Knighton, a small market town situated on the declivity of a hill on the south bank of the river Teame, is ten miles north of Radnor. The town consists of several neat, well-built streets: it has at present no manufactures. A little business in woolstapling is still carried on in the town. The market is attended by dealers from Birmingham and its neighbourhood, who purchase various kinds of provisions. This connection with Birmingham has existed for eleven or twelve years. Coal is brought in waggons from Clee Hill in Shropshire. This town is one of the contributory boroughs to Radnor. Knucklas, likewise a contributory borough, is a small village 13 miles north of Radnor.

Rhayader, a market town situated on the north bank of the river Wye, is 20 miles north-west of Radnor, to which it is a contributory borough. This town principally consists of two streets intersecting each other at right angles.

The town hall stands at the intersection of these two streets. There is a bridge across the river consisting of one large arch. It is said to have once been a place of considerable importance. There is a small manufactory of flannel, and one of coarse grey cloth. There are a grammar school, the parish church, and several meeting-houses.

Cefn-Llys, situated 10 miles north-west from Radnor, is another contributory borough to Radnor. It contains only three farm-houses and one small cottage.

Montgomery

is bounded on the south by Radnorshire, on the east by Shropshire, on the north-east by Denbighshire, on the north-west by Merionethshire, and on the south-west by Cardiganshire: the two latter counties meet Montgomeryshire in a point at the mouth of the river Dovey. This county is of an irregular quadrangular figure, the greatest length of which from east to west is 40 miles, and from north to south 31 miles: the area is about 839 square miles. The surface of the country is in general extremely mountainous but there are some vales, and also some high table land. On the south-east, the Severn runs through an extensive valley which is extremely fertile, and in general in a high state of cultivation.

From this part of the county the ground rises towards the north-west into hills of considerable elevation. The Plinlimmon mountain, in the south-west part of the county, is 2463 feet high, and the greatest elevation in the county. A branch from the Plinlimmon towards the south, but still on the north of the Severn, is called the Bya mountains, and forms a high table land several miles in extent. On the east there is another lofty range, the Freiddin or Breidden hills. From Plinlimmon a mountain range runs in a north-easterly direction between Llanvrynmaer and Carno, and thence turning more to the north continues through the county till it enters the adjacent county of Merioneth, near Arran Fowddy, through which it continues in the same line to the fertile valley of Festiniog. This range separates the eastern and western streams, and a person may walk fifty miles along it without crossing a single rivulet. Most of the mountains are covered with verdure to their summits, but some of them present a very barren and dreary aspect. All the rivers have their sources in the chain of mountains which runs from Plinlimmon towards the north-east; some flow westward into the Irish sea, and others eastward into the Severn. The soil of the valley is chiefly argillaceous; that of the mountains of a schistose nature.

The land on the eastern side of the county bordering on Shropshire, is adapted to arable cultivation: hemp as well as corn is grown, and in the narrow valleys all the different kinds of grain; but in the south-west and midland parts, the soil is too poor and the climate too bleak to allow the successful cultivation of corn, these uplands are accordingly almost exclusively devoted to sheep-walks. The breed of small ponies called Merlyns is peculiar to this and the adjacent county of Merionethshire: it is a very hardy and useful animal.

This county is better wooded than most parts of North Wales. The timber was much valued for ship-building, and it was in great request in the dockyards. In consequence of this demand, and of sufficient care not being taken to continue the supply by planting, the county is not nearly so well timbered as it was fifty years ago. Many plantations, however, have been recently made. The produce of the lead mines and of the slate quarries constitute the chief mineral wealth of this county. There is a large lead mine at Llangynog near the Ferwyn mountains, on the northern extremity of the county. Limestone is likewise found, but not very abundantly.

The climate, of course, varies with the difference of elevation, being much more temperate in the valleys than on the mountains. It is on the whole salubrious and pleasant. Westerly winds prevail; and when they incline to the north or south, they are, in general, very boisterous.

The principal rivers are the Severn, the Wye, the Vyrnwy, the Tanat, and the Dovey. The Severn rises at the foot of the Plinlimmon, and pursuing a south-east course, passes by Llanidloes, Newtown, Welsh Pool, and out of the north-east angle of the county into Shropshire. The Wye has its source near the same place, and soon flows into Radnorshire. The Tanat rises in the north part of the county, and after meeting the Rhaiadr from Denbighshire, forms the boundary between the two counties, and joins the Vyrnwy near Llandrisilio. The Vyrnwy rises on the west side of Montgomeryshire in two sources, and passing by Llanfair takes a winding course to the north-east till it falls in the Severn, just before that river enters Denbighshire. The Dovey rises in Merionethshire, and forms part of the boundary between that county and Montgomeryshire: it falls by a wide estuary into the Irish sea. All the rivers abound in fish. Salmon is caught in the Severn near to its source.

This county is divided into nine hundreds: Llanfyllin, Deuddwr, Pool, Cawrse, Mathrafal, Machynlleth, Llanidloes, Newtown, and Montgomery, comprising 47 parishes and 7 market towns. It sends one member to parliament.

Montgomery, the county and election town, is a place of little importance. It sends one member to parliament in conjunction with four other boroughs, to all of which it is inferior in magnitude except Llanfyllin. The borough includes a district ten miles in circuit, which is entirely agricultural, and the town has no manufactures or trade. Montgomery is 161 miles north-west of London: it is situated on a rocky eminence, and is a clean and pretty town. The ruins of a castle, built in the eleventh century, stand on an elevated spot to the north of the town, near which are the guild-

hall and the county gaol. The church is a handsome building.

Newtown is a contributory borough to Montgomery, from which it is distant seven miles south-west. This town is situated on the southern and partly on the northern banks of the Severn, and is one of the most considerable places in the county. It consists of several streets, and has a bridge over the river. Manufactures of woollen, especially of flannel, are carried on in the town and its vicinity. The greater part of the Welsh flannel is made here. The peculiar quality of the water is said to be one of the causes of the excellence of the woollen goods. Newtown is an increasing and flourishing town. In 1801 the population was 990, and in 1841 it was 6535. The church is an ancient building.

Llanidloes, a market town 13 miles south-west of Newtown, is one of the contributory boroughs to Montgomery. The town is situated in a valley on the east bank of the Severn, and is nearly surrounded by high hills. It principally consists of two wide streets, intersecting each other at right angles. The houses are mostly frames of timber, with the open spaces filled up with wattle and mud. There are two bridges across the Severn. The market-house is a mean building. The roof of the church is of curiously carved oak. Flannels and other woollens are the principal articles of manufacture. The population and buildings have increased rapidly of late years. There are slate and stone quarries in the vicinity.

Machynlleth is a contributory borough to Montgomery. The town is situated in a valley, through which the Dovey flows, and, except at the two points where that river enters and passes out of the valley, the town is nearly surrounded by hills. It is a place of great antiquity, supposed to have been a Roman station. The town is regular and well built, chiefly consisting of two wide streets in the form of the letter T: the church stands on the north, and the market-place in the centre of the town. Small quantities of coarse webs and flannels are made here. There is an endowed free-shool.

Llanfyllin, a small town, and one of the contributory boroughs, is 10 miles north of Montgomery. The church is an ancient building. This town is incorporated: it has a town hall and three endowed schools. A small quantity of malt and leather is produced.

Welsh Pool stands in a valley, through which the Severn flows, 7 miles from Montgomery, to which it is a contributory borough. The town mainly consists of one long, wide, and spacious street. There are a parish church and a county hall, the latter of modern erection. The town, which is thriving, has some small woollen factories, inferior to those carried on at Newtown and Llanidloes; it is, however, the chief mart for the flannels made at the two latter places, and in other parts of the county. A market for the sale of flannel, &c., is held every fortnight. The Severn is navigable to within a short distance of the town, and a branch of the Ellesmere canal, which passes close to it, affords a water conveyance to Shrewsbury and other places. Powis Castle is about a mile to the south-west of the town, and is surrounded by noble trees. It was erected during the twelfth century, and is considered a perfect specimen of the ancient Welsh fortress. It still retains its original large dimensions, but the interior has been altered to adapt it for a modern habitation. This castle is the seat of Earl Powis.

Llanymyneeh, on the borders of Shropshire, 9½ miles from Welsh Pool, is a small village, in the neighbourhood of which there are extensive lime works. Between the beds of limestone copper ore is found. The Roman works carried on there for obtaining the ore and extracting the metal may still be traced. They consist of from 20 to 30 shallow pits, and a cave of considerable dimensions terminating in an irregular winding passage. In one of the levels, which was explored some years ago, was discovered the figure of a skeleton with mining tools and some Roman copper coins. There are no copper works here at present. The canal to this place greatly facilitates the transport of the lime.

Merionethshire

is a maritime county, bonded on the east and south-east by Montgomeryshire, on the north-east by Denbighshire, on the north by Denbighshire and Caernarvonshire, on the west by Cardigan Bay, and on the south by the estuary of the river Dovey, which separates it from Cardiganshire. It forms an irregular triangle, the vertex of which is on the south. Its

greatest length from north to south is 34 miles, and from east to west 22 miles. The area is about 663 square miles.

The length of the coast here is about 38 miles, included between the æstuary Traeth Bach, on the north border of the county, and the wide estuary of the Dovey on the southern border. The only port is that of Barmouth, at the mouth of the Maw, about halfway between Traeth Bach and the mouth of the Dovey. It is difficult of access, the bar only admitting, even at high water, vessels which do not draw more than eight or nine feet. On the northern part of the coast, and adjoining Caernarvonshire, is Traeth Bach, an inlet of the sea, the greater part of which is dry at low water, when it becomes quick. About 2000 acres of a smaller adjoining inlet, called Traeth Mawr, have been reclaimed from the sea by embankments. There is a tradition that between 13 and 14 hundred years ago a large tract of this county, extending from north to south 12 miles, and about five miles in breadth, was inundated by the sea.

This county is extremely mountainous, but the surface is also diversified by hills and fertile vales, woods, lakes, rivers, and cataracts. The whole presents a wild and picturesque aspect, but is sufficiently softened to entitle the scenery of Merionethshire to be ranked among the most beautiful as well as the grandest in North Wales. The chief mountain range, which in one part of its course is called the Berwyn, runs in a north-east direction from the estuary of the Dovey to the neighbourhood of Llangollen, and in the eastern part of its course separates this county from Montgomeryshire and Shropshire. This range forms the watershed between the valleys of the Maw and the Dee on the north, and those of the Dovey and the Severn on the south. This range contains Cader Idris, which is about three miles south-west of Dolgelly, and 2914 feet high. This mountain is very precipitous, and on the south it is nearly perpendicular; at its base is the lake called Llyn Talylln. In the same range, and about 10 miles to the north-east, is Arran Fowddy, 2955 feet high. There are other lofty summits in this range: Cader Berwyn, seven miles south of Carween, and on the borders of Montgomeryshire, is 2563 feet high. This range is in one part a mere ridge, and in no part exceeds $4\frac{1}{2}$ miles in breadth. The highest summit in the county, Arenig Mawr, (2809 feet,) is west of Bala, and the centre of a mass of mountains. West of Cader Idris, towards the sea, there are round-topped, smooth hills, which are appropriated to sheep pasture, for which they are adapted, and between them and the sea are some tracts of grass and marshy land. On the north there is a mountainous tract which contains several lakes and the beautiful and fertile vale of Festiniog: this vale is less than one mile in breadth, and scarcely three miles in length; the hills which bound it are richly covered with wood, and a small river winds through it.

The rocks of this county principally belong to the slate formation. There are large slate-quarries in the Berwyn mountains, and slates of excellent quality are got at Festiniog.

The only metals in this county are copper, lead, and calamine. The level parts of the county abound with peat, which furnishes the inhabitants with fuel. Blue limestone is got in the valley of the Dee, and in that of the Alwen, a tributary to the Dee; it is used for lime, which is the chief manure employed in the county. The soil of the valleys is in some parts fertile, but in general very sterile. Potatoes, barley, and oats are cultivated in small quantities, but the land is best adapted to pasturage. The dairy and grazing, together with the breeding of sheep, are the principal objects of agriculture.

The rivers of this county are the Dee, the Disynwy, the Dyfi, the Wnion, the Maw, and the Dyrwhydd. The Dee rises in the mountains of Arran Fowyddy, and is joined by several streams before it reaches the lake of Pimblemere or Bala. It flows from the lake in a north-east direction past Carwen into Denbighshire. The Dee is joined by the Alwen, a little above Carwen; but this river mainly belongs to Denbighshire. The Disynwy rises a few miles to the south of Dolgelly, after forming the lake of Tal-y-Llyn, and falls into the Irish sea near Towyn. The Dovey or Dyfi rises near Arran Fowddy, takes a south direction to Dinasmowddy, and soon after enters Montgomeryshire, thence a little above Machynlleth it forms the boundary between the two counties, and falls into the Irish sea by a wide æstuary at Aberdovey. The Wnion rises to the

east of Arrenig, and uniting with the Maw falls into the sea a little below Barmouth by a wide æstuary: in some places this æstuary is a mile wide and dry at low water. The Maw has its source rather more to the north. The Dyrwhydd rises in the north part of the county, and falls into the sea about three miles north of Harlech. There are several beautiful lakes in Merionethshire. That near Bala, called Bala Pool, or Pemblemeer, is nearly four miles long, and about 1200 yards in breadth. Its water is very pure, and it abounds with a variety of fish. In tempestuous weather it rises several feet, and inundates the surrounding country. Near the vale of Festiniog are the falls of Cynfaol, where the water is precipitated in a broad sheet over steep rocks. This county was once much more thickly covered with timber than it is at present, but the woodlands are still tolerably extensive. The climate is similar to that of most other parts of Wales, rainy, cold and bleak on the mountains, but somewhat milder in the valleys and along the coast.

Merionethshire is divided into six hundreds, containing 37 parishes and four market towns. The hundreds are Ardwdwy, Edernion, Estimaner, Penllyn, Tal-y-bont, and Mowddypont continuously. It sends one member to parliament.

Harlech, the election place for the county, is a corporate town situated on the coast, 230 miles from London. Though still considered the county town, it is now only a small miserable-looking village, with dwellings more resembling huts than houses. It has a small harbour. A British fortress is supposed to have existed here, and a few Roman coins, which have been dug up, have led to the conjecture that it was a Roman station. The castle was rebuilt or enlarged by Edward I., and though now fast falling into decay it is still nearly entire. It is a noble quadrangular fabric, standing on a high projecting rock which abuts on the sea. A deep and wide ditch has been cut out of the solid rock to defend it on the land side. This place has frequently withstood long sieges, and it was formerly taken by the troops of the parliament in the civil wars of Charles I.

Barmouth, the only place used as a sea-port in this county, is on the north side of the outlet of the river Maw, which here forms a wide æstuary, out the entrance is rendered dangerous by sandbanks. A number of small vessels belong to this port. The Welsh name of the place is Aber-maw, which has been corrupted into Bermaw and Barmouth. The town is partly built in terraces, on the side of a hill so steep that the chimneys of one terrace are on the same level as the ground floor of another. Barmouth is now much visited as a watering place.

Dolgelly, a market town eight miles east of Barmouth, is situated in a pleasant valley on the south side of the Wnion, a short distance above its junction with the Maw. There is a stone bridge of seven arches over the Wnion. Three miles south of the town is the towering mountain of Cader Idris. Dolgelly is a small irregularly built town, with narrow streets, but it has much improved of late years. An extensive manufacture of coarse woollen cloth is carried on here, and in the vicinity very extensively; few cottages are without looms. The summer assizes are held here, and a new county hall and gaol have been erected in the present century. The living is a rectory, and, besides the church, there are several places of worship for dissenters.

Bala is a corporate town, 17 miles to the north-west of Dolgelly, at the northern extremity of the lake of Bala. The town contains one main street; most of the houses are low. There is an endowed school, in which boys are clothed and educated. The winter assizes for the county are held here. Knitting woollen yarn into gloves, stockings, wigs, and other similar articles, forms the principal employment of the inhabitants. Bala is in the parish of Llanykil.

Carwen is on rising ground, on the south bank of the Dee, 28 miles N.E. of Dolgelly. The church is a cruciform building, finely situated at the foot of a precipice. The old British post called Caer Drewyn, of which the modern name Carwen is an abbreviation, was on the summit of a hill; a circular wall, which is a mile and a half round, still remains.

Dinas-y-Mowddy, a small corporate town, is situated on the Dovey, eight miles east of Dolgelly. It consists of a few mud cottages, thatched with rushes. A considerable quantity of flannel is made in the neighbourhood,

and partly in the houses of the weavers.

Towyn is on the coast between the æstuary of the Dovey and the Maw, but nearer to the former. It is situated in a pleasant vale, at the back of which rise lofty mountains; and is now resorted to as a bathing-place. The houses are of stone, and pretty well built. The church is a large old edifice, and contains some curious monuments. There is a medicinal well near the town, which is used for rheumatic and other disorders. Some flannel is made at this place. Near Aberdovey, at the mouth of the Dovey, some slate quarries are worked, and there is a considerable coasting trade carried on from this place.

There are Roman remains near Bala, at Tommen-y-Mur, near Festiniog, and at other places. The Roman road from Maridunum or Caermarthen to Segontium or Seiont near Caernarvon, passed through this county, and it may be traced from Trwsfynnydd to Festiniog. The ruins of Cymmen Abbey are near Dolgelly, on a level tract near the Maw; part of the church is standing, and other parts of the edifice have been turned to domestic purposes.

CAERNARVONSHIRE

is bounded on the south by Merionethshire and by the sea, into which it juts out in a long narrow peninsula; on the west, north-west, and north it is bounded by the sea and the Menai Strait; and on the east by Denbighshire. Its greatest length from north to south is 22 miles, and from north-east to south-west about 54 miles. The area is 544 square miles, a large proportion of which is unfit for cultivation. The length of the coast line is about 100 miles. At the north-east extremity of the county, the bold promontory, called the Great Orme's Head, projects into the sea. Between Bangor and the mouth of the Conwy, the mountains abut on the sea in the great mass of Pen Maen-Mawr, along the side of which the high road runs. The Menai Strait separates Caernarvonshire from the island of Anglesey. The western coast of the peninsular part of the county is generally low, but at Braich y Pwll, the southern extremity of the peninsula, it runs abruptly from the sea. The eastern shore of the peninsula is more irregular than the western, but it is generally low and sandy.

Caernarvonshire is the most mountainous part of Wales, and with the exception of some low parts near the coast and along the rivers, it is one mass of high land. The great mountain district of Snowdon has been already described (p. 63). The highest summit of the Snowdon range, which is near the centre of the county, is 3571 feet. But though the loftiest mountain in Wales, Snowdon is far from being the most picturesque in form. The summit is so frequently enveloped in clouds and mist, that it is difficult to obtain a glimpse of the almost boundless prospect which in favourable weather opens to view. The hills of Scotland and the high mountains of Westmorland and Cumberland can be traced in the outline, and the whole Isle of Man is distinctly seen. From the central part of the Snowdon range the high land diverges in every direction. To the south-west it is continued in the Craig Goch (2350 feet) and the Moel Hebog (2584), and through the peninsula to the rocky coast of Braich y Pwll; the highest land is nearer to the western than to the eastern coast of the peninsula.

The lower parts of the county are on the east side of the peninsula, along the west coast of the same peninsula, and the Menai Strait, and on the lower course of the Conwy. Lead and copper are found, but the working of the lead mines has always been attended with great labour on account of the difficulty experienced in freeing them from water. Copper is got in the vale of Llanberis at the base of Snowdon, at the Great Orme's Head, at Llandudno, and in several other places. There are mines near the Lake Ffynnon Las, but so difficult of access that the ore is conveyed over one of the highest ridges of Snowdon for nearly a mile on the backs of men, until a road is reached which sledges can traverse. There are extensive slate quarries near Penrhyn on the coast and in other places: slates form a considerable article of export. Millstones are got in the vale of Conwy. The soil varies in different parts. In the district beneath the Snowdon mountains, and particularly near the Menai shore, sand and loam are found on a substratum of limestone. Towards and amidst the mountains where the land is dry, the surface soil is of a reddish kind of loam, which becomes shallower as the ground

rises. In moist situations the land is of a peaty description. The produce of the arable land is wheat, barley, oats, potatoes and turnips, but the agriculture of the country is principally pastoral. Great quantities of cattle are reared; horses and goats are also bred in considerable numbers. Numerous flocks of sheep feed on the mountains, and though they are of small size, the quality of the flesh is excellent, and they yield wool of a fine but short staple. There are many dairy farms, and more butter and cheese are made than is required for home consumption. Great numbers of cattle are sent to the English market. The climate is cold and bleak, and there is a great quantity of rain, and the harvest is usually very backward, and sometimes the crops do not ripen.

The principal rivers are the Conwy and the Seiont. The Conwy or Cyn-wy rises in a lake called Llyn-Conwy, near the confines of Merionethshire and Denbighshire, and after forming a boundary between the latter county and Caernarvonshire, a general north course of about 30 miles past Llanrwst and Conwy, falls into the Irish sea by a wide æstuary near the Great Orme's Head. The river forms several fine falls, and it is navigable for about 12 miles. It is joined by several small streams, of which the Machnod, the Lleder, and the Llugwy are the principal. The valley of the Conwy forms the eastern boundary of the high Snowdonian mass, and the Llugwy and other streams which join the Conwy on the left bank from the elevated llyns or small lakes of Snowdonia. The Seiont rises in Snowdon, and flowing through the two picturesque lakes of Llanberis, which are at the foot of that large mountain, enters the Menai near Caernarvon. The Glas Lyn, which rises in the Ffynnon Llas and enters the sea near Tremadock, is the most picturesque river in Wales; near its source there is a waterfall 300 feet high, and it passes through the lakes of Llyn Gwynen and Llyn y Dinas. There are many other small streams which have their sources in lakes and pools in the hollows of the mountains. Fish is abundant in all the lakes, as well as in the rivers. The fishery of the sea-coast is very considerable; herrings, oysters, and lobsters are plentiful.

The lakes are very numerous, but are all small. The largest is Llyn Conwy, the source of the Conwy; the next in size and the most picturesque of all are the two lakes of Llanberis.

The Chester and Holyhead Railway passes by Conwy and Bangor, over the Menai into Anglesey.

The county is divided into 10 hundreds, Commitmaen, Creuddyn, Dinlaen, Eivionydd, Gafflogian, Isaf, Is-Gorfai, Nant-Conway, Uchaf, Uwch-Gorfai. It consists of 76 parishes. It contains one city and four market towns, and is represented in parliament by one member.

Caernarvon, the county town, and a borough, is situated on the Menai Strait, and near the mouth of the river Seiont, 253 miles N. W. of London. Caernarvon sends one member to parliament in conjunction with the contributory boroughs of Pwllheli, Nevin Criceath, Conwy, and Bangor. The modern town of Caernarvon owes its origin to Edward I., who considered it a favourable situation for erecting a fortress to keep the Welsh in check. The town stands on a peninsula, formed by the Menai on the north and west, and the Seiont on the south. The quay extends along the Seiont. Caernarvon is a walled town. There are two principal gates to the east and west; the walls are strengthened by round towers. The suburbs have now extended beyond the walls of the town. Caernarvon is considered the best built town in Wales, though the streets are narrow. The streets intersect at right angles, corresponding to the position of the gates. The church, which is small and inconvenient, is situated about half a mile from the town, but there is a chapel of ease more eligibly placed. The town hall is an old building over one of the gates; the county hall and market-house are of modern construction. There are hot and cold baths to which visitors resort during the proper season. Caernarvon has a port and commodious harbour. The Menai Strait is about a mile wide, but it contains sandbanks which make the navigation difficult. The principal trade of Caernarvon is the export of slates; copper ore, flannel, and stockings, are also articles of export. The imports are chiefly Irish linen, hides, tallow, and groceries. It is frequented by steamers.

The remains of the castle erected by Edward I. are very considerable, and the external walls, which are nearly entire, occupy a rectangular space of

between two and three acres. Two of the towers are much more lofty than the rest, and that called the Eagle Tower, in which Edward II. was born, is in a very fine style. This castle suffered in the civil wars of the seventeenth century, and the interior is in a very dilapidated state.

The site of the Roman station of Segontium, whence the modern name Sciont, is about a mile from the town. The remains are only some fragments of a wall. The inclosure occupied six or seven acres. The walls of Segontium furnished part of the materials for the castle of Edward I. There are other Roman remains in the neighbourhood.

Bangor is a city, episcopal see, and railway station, situated in a small bay at the northern extremity of the Menai Strait, eight miles north-east of Caernarvon. Bangor is a very old city, and was formerly of great importance. There is a tradition that it was once defended by a strong castle. It principally consists of one long irregular street, but there has been a considerable increase of buildings of late years in consequence of the opening of the Penrhyn slate quarries in its vicinity, from which great quantities of slate are shipped at Port Penrhyn, which is a little to the north of the town, to England and Ireland. Since the erection of the Menai suspension bridge, Bangor has had numerous visitors; and it is also resorted to in the summer as a bathing-place by visitors from Liverpool and other places. There is a short railroad from the Penrhyn slate quarries to Port Penrhyn near Bangor; and there is another from the slate quarries in the vale of Naulle to Caernarvon. The cathedral has several times been partially destroyed in time of war and by fire. It is a venerable structure 214 feet long, and consists of a choir, nave, transepts, two aisles, and a quadrangular tower at the west end. The chapter-house, library, and consistorial court have been added since the erection of the cathedral. The palace stands in a low situation near the cathedral. The city contains a free grammar-school, an hospital or almshouse endowed by Bishop Rowland in the seventeenth century, and a public dispensary. The city has several excellent inns, and various places of worship for dissenters. The Chester and Holyhead Railway runs through it, and near it is the great tubular bridge, erected by Robert Stephenson, over the Menai, at the Britannia rock.

Conwy, at the mouth of the river Conwy and on its left bank, is 21 miles north-east of Caernarvon. Conwy is still surrounded by the old walls, which enclose a triangular space; the castle stands at one of the angles. There are 21 towers on the walls, besides two towers at each of the three entrances. The town is small and not in a flourishing state: the trade, which consists principally in the export of timber and slate, is inconsiderable. Conwy seems to owe its support at present to its situation on the railway between Chester and Holyhead. As the river is about half a mile wide opposite to the town at high water, it was formerly crossed in ferry boats, and sometimes with considerable risk. But in 1826 a suspension bridge was erected. It extends from the rock on which the castle stands, to a small rock or island in the river, which is connected with the east side of the stream by an embankment across the sands. The width of the bridge between the centres of the supporting towers is 327 feet, and the length of the embankment is 2015 feet. The castle, one of the most magnificent remains of castellated architecture in England, stands on the margin of a precipitous rock, which is washed on two sides by the æstuary of the Conwy, and a small stream which flows into it. The walls are from 12 to 15 feet thick, which were flanked by eight large circular towers; four of these have been destroyed. The interior building, which is in a dilapidated state, consisted of two courts. The great hall was about 130 feet long. This castle was built by Edward I., in 1284, and six years afterwards the English king was besieged in it by the natives, and reduced to great extremities, before he was relieved. The castle was besieged and taken by the forces of the parliament in 1646. The railway is carried over by a tubular bridge, being the first of the kind erected.

Conwy is sometimes considered to be the site of the Roman Conorium; but it is now generally agreed that Conorium was at Caer-Rhun, five miles higher up the river.

Criccath, a contributory borough to Caernarvon, is 16 miles due south of Caernarvon, on the bay of Cardigan. It is a place of great antiquity, but at

present is a mere village consisting of a few small houses. It has no trade, nor is there any facility for unlading vessels; only a few fishing vessels belong to the town. The remains of a strong fortress stand on an eminence at the end of a neck of land near the sea. The place has a free school.

Pwllheli, also a contributory borough to Caernarvon, is on the east coast of the long peninsula, 19 miles south-west of Caernarvon. The town consists of one long street. It has a small port, and a considerable coasting trade, which consists in the importation of coals and of shop goods from Liverpool, with which it supplies most parts of the surrounding country. Its market is large, and there being no other market town near, Pwllheli is resorted to by persons who live at the farther extremity of the peninsula of Caernarvonshire, a distance of near twenty miles. Vast shoals of herrings are caught along the coast. The town has a charter which was granted by Edward, Prince of Wales, son of Edward III.

Nevin, on the west coast of the peninsula, is 19 miles south-west of Caernarvon, and a contributory borough to it. Nevin consists of a few scattered houses. There is a small port, but little trade. Nevin also received a charter from Edward the Black Prince.

The Roman stations of Segontium and Conorium have been mentioned. At Caer-Rhun, the probable site of Conorium, the foundations of buildings have been discovered, and Roman bricks with the letters Leg. X. Besides the castles of Conwy and Caernarvon, there are the remains of Dolbadern castle, a place of no great extent, but in a commanding position on a rock near the junction of the two lakes of Llanberis. The foundations of Diganwy Castle, which was near the Great Orme's Head, are still visible. Penrhyn castle near Bangor is of the time of Henry VI., but it has been completely remodelled of late years. There are monastic ruins in Caernarvonshire.

Bardsey is a small island, two miles long and one broad, about two miles from the extreme south-western point of Caernarvonshire, from which it is separated by Bardsey Sound. There is a light-house on the island. Bardsey was once the seat of a religious foundation. There are two other small islands close to the coast, called St. Judwal Islands, about midway between Bardsey and Pwllheli.

Tremadoc (the house or town of Madoc) is a modern town on the Traeth Mawr, and at the mouth of the Glan Llyn, four miles from Criccieth. The town was built by Mr. Madocks, from whom it takes its name. It contains a market town, a church, and some well-built houses. At Port Madoc, about a mile below the town, there are good quays, to which vessels of 300 tons can come up. In 1810 a portion of Traeth Mawr was regained from the sea by a great embankment of earth nearly two miles in length; above 1200 acres of rich land have been thus acquired. Tremadoc has above 1,000 people.

Anglesey

is an island to the north-west of Caernarvonshire; from which it is separated by the Menai Strait. The rest of the coast is bounded by the Irish sea. The Menai Strait lies nearly S.W. and N.E. It has a very narrow entrance on the S.W., called Caernarvon Bar, whence it expands to about two miles in width near the town of Caernarvon. It then gradually diminishes in width as far as Bangor Ferry. From Bangor Ferry it opens again, and forms the bay of Beaumaris. The length of the strait is about 11 miles. In the two miles S.W. of Bangor, there are numerous insulated rocks, known by the name of "the Swellies," which render the navigation difficult and hazardous, except to very experienced pilots, who are acquainted with the impetuosity of the tides: as the passage saves time and distance, it is much used by vessels under 100 tons burden, and occasionally by vessels of a larger description. The first and last portions of each ebb and flow run in contrary directions in this strait, an anomaly which is thus produced:—When the great tidal wave sets up the Irish Channel, a part of it is checked by the island of Anglesey, and only a small portion is impelled through the strait, while the remaining part rolls round the N. and W. shores of the island, and meets that which first entered the strait, between Bangor and Beaumaris. This junction takes place about an hour and a half after flood at Caernarvon Bar, and consequently that period elapses between the times of high water at the respect-

ive places. At the entrance of this strait the neap tides rise from 10 to 12 feet; ordinary spring tides from 20 to 21 feet; and extreme equinoctial tides to nearly 30 feet. There are six ferries across the strait, the chief of which is at Bangor, but it is now nearly superseded by the superior convenience of the Menai bridge, and of the Britannia Railway bridge. Anglesey is of an irregular form, and it includes on the west, the small island of Holyhead. The greatest length of Anglesey from north to south is 20 miles, and from east to west (including Holyhead) 25; the area is about 271 square miles. The coast is indented by several creeks and bays, which form commodious harbours. The general aspect of the country is flat, with a few gentle risings. There is little timber except on that side of the island which borders on the Menai, which is finely wooded, and rises gently from the water's edge. The island contains many small streams, the principal of which are the Alaw, the Braint, the Cefni, the Fraw, and the Dulas. Fish is found in abundance in the surrounding sea, and the herring fishery is sometimes a source of great profit. The climate is mild, but owing to its situation the island is wet, and autumnal mists are common, and produce ague. The soil is various in different parts, but the prevailing soil is a reddish loam, which is tolerably fertile. The low grounds abound in peat, which is dug for fuel. Most of the land is laid out in pasturage, and large herds of cattle are annually sent to England. Sheep are also fed, and a large number is annually exported. Potatoes are grown to a large amount, and the cultivation of turnips is on the increase. Little wheat is grown, but oats and barley are more extensively cultivated.

This county is rich in mineral productions. Copper ore is found within a few feet of the surface; and instead of being disposed in veins it forms a connected mass or bed, in some parts of considerable thickness. Two copper mines are worked in the Parays mountain situated about two miles from Amlwch on the north-east. Copper was first discovered there between 60 and 70 years ago. At first large quantities of copper were annually obtained, but of late years the mines have not been so productive.

The exterior covering of the mountain is aluminous slate, the matrix black grey chert, and the ores are copper, sulphate of copper, and of lead and native sulphur. The surrounding atmosphere is strongly impregnated with sulphur; the mountain is perfectly barren from the summit to the plain below, not a single shrub and scarcely a blade of grass living in this sulphureous air.

Lead ore, containing silver, is likewise found in the Parys mountain, and coal is obtained in considerable quantity at Maltraeth. There are also quarries of marble, and of various kinds of breccia, which is used for millstones.

Anglesey is divided into six hundreds, and it contains 77 parishes and five market towns. The county sends one member to the House of Commons. This island is on the direct road between London and Dublin, and packets sail regularly between Holyhead and the latter port. The railway from London through Chester to Holyhead crosses the Menai Straits about a mile from the Menai bridge, by the Britannia bridge, which is of iron, and tubular, and the first great work of the kind constructed. Another curious work on the railway is the first bridge constructed on Dr. Potts' hydraulic piles at Maeldraeth. The main road to Holyhead runs across the island from the Menai Strait, which it crosses by a noble suspension bridge, two miles from Bangor. The under side of the roadway of this bridge is 100 feet above the water at spring tides. The distance between the supporting pyramids from which the bridge is suspended is 500 feet; and the height of the pyramids 50 feet above the level of the roadway.

This island has an historical interest as having been a favourite seat of the Druidical religion. Tacitus (*Ann.* xiv. 291) briefly notices an attack of the Romans, under Suetonius Paulinus, (A. D. 61,) on Anglesey, to which he gives the name of Mona. The sacred groves of the island were cut down by the invaders, and the power of the Druids was destroyed. The island was again conquered by Agricola, A. D. 76; (Tacit. *Agric.* 18.) There are several cromlechs and carnedds (heaps of stones) on the island. The cromlechs consist of a stone or table, of large dimensions, placed in an inclined position, and supported by from three to five, and even sometimes nine stones, of considerable size. There are two of these cromlechs

in the park of Plas Newydd, on the east side of the island.

Beaumaris, the capital of the county, is about 241 miles N.W. of London. It is situated in a picturesque situation on the east coast of the island, and about three miles from Bangor. It sends one member to parliament, together with Llangefni, Amlwch, and Holyhead. The parliamentary borough comprises a district 10 miles in circuit. The town is a small place, chiefly consisting of two streets. It has neither trade nor manufacture; but it derives considerable advantage from being the resort of visitors from Liverpool and other places, for sea-bathing. There is good anchorage in the bay before the town.

The church is a handsome edifice, with a lofty square tower. A town hall, a custom-house, and a free school, are the principal public buildings of the place. Beaumaris Castle was built by Edward I., in 1295. Though in a dilapidated state, the general plan of the building is clear, and considerable parts of it are in good preservation, such as the great hall, which is 70 feet long, and the remains of the chapel. Edward I. incorporated the town when he built the castle, and it was reincorporated by Elizabeth.

Amlwch, on the north coast, one of the contributory boroughs of Beaumaris, is distant from it 15 miles, in a straight line. This place was formerly a small fishing town, but since the opening of the copper mines of the Parys mountain in 1768, it has gradually risen in importance. The inhabitants are principally miners, or persons concerned in mining adventures. The mines are situated about two miles from the town. The smelting works are close to the quay of a small port from which the copper and ore are exported, and at which the coals and other requisites for the smelting works are imported. The port is principally artificial, the solid rock having been cut through for the purpose of making a safe harbour for the vessels employed in the mining business. Amlwch contains a national school. In 1832, 184 tons of copper were exported from Amlwch.

Holyhead is situated in a bay on a small island, which is united with Anglesey by a long embankment over which the Holyhead road is carried, and by another over which the Holyhead Railway is carried. It is 23 miles from Beaumaris, direct distance. The north-western part of this island is elevated, and the highest point more than 700 feet above the sea-level. Holyhead is the largest town in the county, but it has no particular branch of commerce or manufacture. The importance of the place depends upon the circumstance of its being the railway station and place of embarking and landing for passengers to and from Ireland. The improvements in the railway, the Holyhead road, the harbour, and the establishment of steam-packets to Dublin, have caused a great increase in the number of passengers through this town, and thus added to its prosperity. The streets have within the last few years been new paved, and furnished with causeways; the accommodations for travellers are extremely good. An assembly room and baths have been erected. The church is an ancient building in the form of a cross. There is a national school. The steam-packets pass daily between Holyhead and Dublin, from which it is about 55 miles distant; the voyage is often performed in four hours. A pier is constructed in the harbour, so that vessels may ride at anchor, and land passengers, or sail, at all times of the tide. A light-house is erected on a small island called Ynys Cybi, which forms one side of the harbour. The government have undertaken to improve the harbour. The island, or rather rock, of South Stack, lies off the most western point of Holyhead, from which it is divided by a small channel, in which the waters are so rough that it cannot be safely crossed in a boat. The communication is effected by means of a basket and ropes; this island contains another light-house having a revolving light elevated 200 feet above the level of the sea, which is visible at a great distance, and all through Caernarvon Bay.

Llangefni, another contributory borough to Beaumaris, is nine miles west of it. It is a small town, without any trade. The great road to Holyhead used formerly to pass through this place, but the new road lies a little to the south of the town.

Llanerchymedd, a market town, 11 miles east of Holyhead, has no trade or manufactures, and depends chiefly on its market being in the neighbourhood of the Parys moun-

tain; it is the resort of workmen from the mines.

Aberfraw is a fishing port, 12 miles E.S.E. of Holyhead, situated at the mouth of the river Aber.

Newborough, once a considerable market town, is five miles south-east of Aberfraw. It is now an insignificant village.

About seven miles north of Holyhead is the Skerries Island, on which there is a light-house. Priestholm, also called Puffin Island, from the number of puffins which resort to it, is about five miles north-east of Beaumaris.

Denbighshire

is bounded on the west by Caernarvonshire, on the south by Merionethshire, and Montgomeryshire, on the east by Shropshire, Cheshire, and Flintshire, and on the north by the Irish sea. It is of a very irregular figure, part of it to the south-east jutting out into the adjacent counties. The greatest length from east to west is about 25 miles, and from north to south 24 miles. The area is about 633 square miles. The coast line extends from a point a little east of the Little Orme's Head, to the mouth of the Clwyd, a distance of about 10 miles. The surface of the county is generally rugged and mountainous, but it contains several rich valleys, some of which are well wooded. The most extensive valley is the vale of Clwyd, which runs from south to north about 20 miles, and is from three to eight miles in breadth. This tract of country is extremely fertile, and in a high state of cultivation; it is well adapted to the production of corn as well as for pasturage. On the banks of the Dee there is likewise fine pasture land, which is appropriated to dairy farms: the cheese is equal in quality to that of Cheshire. The upland parts of the county are well adapted to the feeding of cattle and sheep. The air is in general salubrious. The chief range of hills in this county is the Hiraethog, which extends from near the Little Orme's Head, in a S.S.E. direction, forming the eastern boundary of the valley of the Conwy as far as Corwen on the Dee, which is a little beyond the limits of Denbighshire. The length of the range is near 30 miles. The steep side is towards the Conwy, and numerous lateral ridges project in from the eastern side. The summit of the Hiraethog Hills is a dreary waste. The highest point of the range is Modwl Eilhin, which is 1660 feet high; and there are several points in the lateral ridges which are nearly as high. A range of high land on the east side of the county, called the Clwydian Hills, commences in Flintshire, and running in a southern direction joins the high land which here forms the northern limit of the base of the Dee. Between the Hiraethog Hills and the Clwydian Hills is contained the basin of the Clwyd. The highest summit of the Clwydian Hills is 1858 feet, and there are several other points above 1700 feet high. Between the Clwydian Hills and a smaller range to the east, is the basin of the Alen, a tributary of the Dee. The basin of the Alwen, also a tributary of the Dee, is in the south-western part of the county, and included between the Hiraethog Hills and a range of hills to the east, which is an offset from the Hiraethogs. Lead is found on the western borders of the county, and iron and coal at Ruabon and near Wrexham. Some slate is got near Cherk. The Hiraethog Hills are chiefly transition limestone.

The principal rivers are the Clwyd, the Elwy, the Dee, and the Conwy. The Clwyd rises in the south-west part of the county, and passing by Ruthin takes a direct course to St. Asaph, and thence continues through the north-west angle of Flintshire till it falls into the Irish sea at the junction of the two counties. The length of its course is nearly 40 miles, and it has numerous tributaries, particularly from the offsets of the Hiraethog Hills. The Elwy rises in the west part of the county in the Hiraethog range, and joins the Clwyd near St. Asaph. The Dee enters the county from the north-east angle of Merionethshire, and, crossing this county at its narrowest part, forms a portion of its eastern boundary. The river Conwy forms the western boundary of the county nearly from its source to its æstuary. The smaller streams are very numerous. The small stream called the Rhaiadr, which flows into the Tenet, a branch of the Dee, forms the water-fall of Putill Rhaiadr, at its exit from a narrow valley in the Berwyn Mountains: the whole height of the two falls, which constitute the cataract, is said to be 200 feet. A navigable

branch of the Ellesmere canal commences at Lan Tysillio, and follows the valley of the Dee for several miles: it is then carried over the Dee by the stupendous aqueduct of Pont Cysyllte, which is 125 feet above the bed of the river. From this aqueduct it runs southward to the Ceiriog, a branch of the Dee, over which it is carried by another aqueduct near the town of Chirk. The Chester and Holyhead Railway passes through the north, and the Shrewsbury and Chester Railway through the east.

Denbighshire is divided into six hundreds, containing 95 parishes and five market towns. The county is represented by one member in the House of Commons.

Denbigh, a borough and county town, sends one member to parliament, in conjunction with Ruthin, Holt and Wrexham. It is 218 miles N.W. from London. The town stands on a craggy hill in the vale of Clwyd, and near the north bank of a stream which joins that river on the left bank. It was formerly surrounded by a strong wall, and protected by a castle, the remains of which are on the summit of the hill on which the town stands. The castle was built principally in the 13th century. Two walls, several feet apart, were built, and in the intervening space rough stones and mortar were thrown, which when dry became one solid mass. The castle was taken by the parliamentary army in 1646, and after the Restoration it was nearly destroyed by gunpowder, by order of government. The grand entrance to the castle, which is a noble pointed archway, still remains, and is surmounted by a figure of the founder, in a niche. The walls which run down the slope of the hill comprise a considerable area. Near the castle is the chapel of St. Hilary, which is principally used as a place of worship by the inhabitants, the parish church being about a mile distant. The town is small, but in general well built. A considerable number of shoes are made in the town, and sent to Liverpool and to the surrounding fares and markets. There are two schools, partly supported by endowments, besides other schools.

Ruthin, a borough, and a contributory borough to Denbigh, is distant 87 miles south-east of Denbigh, and is situated on an eminence near the river Clwyd. The town consists principally of one street, about a mile in length. It is supposed to derive its name from a castle called Rhyydin, or Red Fortress, in consequence of the colour of the stone with which it was built. The castle was erected in the time of Edward I. It was destroyed soon after the Restoration; only a few vestiges of the walls remain. The church is a large and ancient edifice, the roof of which is much admired. The town has a free school of some note, founded by Dr. Goodman, with a lending library attached to it. Dr. Goodman also founded an hospital in the town, for a warden and 12 decayed housekeepers. The assizes are held here, instead of Denbigh, on account of its more central situation. The new gaol is a handsome and convenient building, and the county hall, though without any architectural pretensions, is sufficiently commodious.

Wrexham is situated on the Shrewsbury and Chester Railway in the south-east part of the county, in a mining district, in a pleasant and fertile country. It is 21 miles from Denbigh, to which it is a contributory borough. Wrexham is one of the largest and most respectable towns in North Wales. The streets are wide, and intersect each other at right angles, and the general appearance of the houses is good, especially of those in the high-street. The church is a very fine building, and a good specimen of the architecture of the 15th century. The tower is 135 feet high. and of beautiful construction. The church is 178 feet long, and 72 broad, and consists of a pentagonal chancel, a nave, and two aisles. Statues of 30 saints placed in niches between the buttresses, ornament the exterior, and are good specimens of the state of sculpture in England in the reign of Henry VII. The town hall is a plain building, and there is a small theatre, which is occasionally used. There is a well-endowed grammar school, and various other schools. This town has no particular branch of trade or manufacture; its prosperity is due to the stone quarries, lead mines, and collieries in the parish, and to the fairs. A very considerable fair is held annually in March, for the sale of horses, cattle, Welsh flannel, and goods of every description. The parish, which extends into Flintshire, contains 15 townships. The living is a vicarage, in the gift of the Bishop of St. Asaph, and of the annual value of 746*l*.

Holt, a borough and small market town, five miles N.E. of Wrexham, is a contributory borough to Denbigh. It is situated on the river Dee, which here forms the boundary between Wales and England, and was formerly a town of some note, but now it is little better than a village, and there is no market. On the opposite bank of the river, in Cheshire, is the town of Farndon, which has a more respectable appearance than Holt. There is a communication by a bridge of 10 arches between the two places, which thus form nearly one continuous town. There are hardly any traces of the castle of Holt. It was twice taken by the parliamentary troops in the wars of Charles I. Holt has a free school and several other schools.

Llangollen is a small market town, 19 miles south of Denbigh, in the beautiful vale of the same name, and on the right bank of the Dee. It consists of a few narrow, dirty streets, with houses built of a dark stone, which gives the place a gloomy aspect. The surrounding country is beautiful. The church is the only public building, except the bridge of five arches which was constructed in the 14th century, by John Trevor, Bishop of St. Asaph. Near the town is a factory for spinning cotton yarn, and there are iron works and collieries near the town. Llangollen was a thoroughfare on the old Irish road. Some of the inhabitants are employed in the stone quarries and in the lime works. On the opposite side of the river, on the summit of a hill, are the remains of Castel Dinas Brân; and there are some beautiful ruins of the church and abbey of Llan Egwest or Valle Crucis, just on the border of the parish of Llangollen.

Llanrwst is an inconsiderable market town, 16 miles W.S.W. of Denbigh, and on the east bank of the Conwy, which is navigable for boats a mile beyond the town. Llanrwst contains nothing worthy of remark except a chapel, and a handsome bridge of three arches over the Conwy, both of which were designed by Inigo Jones. There is a considerable corn trade in this town. The living is a rectory, of the annual value of 720*l.*

Chirk, a village distinguished for its picturesque and romantic scenery, is 24 miles S.E. of Denbigh, on the north bank of the Ceiriog, and on the Shrewsbury and Chester Railway. Chirk Castle, which was built by Roger Mortimer, in the 13th century, is now used as a private residence. In the vicinity are the aqueducts of the Ellesmere canal. The aqueduct of Pont-y-Cyssyltan, already mentioned, is conducted over two ravines, and is 988 feet long; there are 19 arches, each 45 feet in the span, with the addition of 70 feet of iron work in continuation at each end. The piers, formed of stone, are frustrums of pyramids, 21 feet by 10 at the base, 12 by 7 at the top, and 116 feet high. This substructure supports an open trough of cast iron, through which the water from the Ellesmere canal is conveyed over the river at the height of 127 feet to the opposite level. On one side of the canal is a towing path and a balustrade. This undertaking was commenced in 1795.

Rhuabon, a corruption of the Welsh name of Rhiw Abon, is a town 5½ miles east of Llangollen, and a station on the Shrewsbury and Chester Railway. It contains a large church, in which there are several monuments of the Wynn family. Wynnstay, the seat of Sir W. W. Wynn, is close to the village. In the parish there is a British fortification, which comprises about four acres within the two ramparts and two ditches. The population of the parish, which is extensive, is mainly employed in the collieries and in the iron works. The branch of the Ellesmere canal, already described, runs through the parish; and there is a railway from it to Rhuabon brook. Rhuabon contains an endowed school and several other schools. The vicarage is of the annual value of 588*l.*, with a glebe house. A market is held by custom every Monday.

There are probably no Roman remains in the county. Part of the rampart and ditch, called Offa's Dyke, runs near Chirk and Rhuabon. The dyke called Watt's dyke, runs parallel to that of Offa through this county, but to the east of Offa's Dyke.

Flintshire

is a county of North Wales, bounded on the west and south by Denbighshire, on the east by Cheshire, on the north-east by the æstuary of the Dee, and on the north and north-west by the Irish sea. A small portion, separated some miles from the rest by a part of Denbighshire, lies on the east

side of the Dee. The greatest length of Flintshire is 28, and the greatest breadth 14 miles. The surface is about 244 square miles.

The general aspect of the country is less mountainous than that of other parts of Wales. The Clwydian Hills form the boundary between Denbighshire and Flint, from the hill in Moel Park (1280 feet high) to Moel Fammen (1845 feet.) Another tract of high land, along which the boundary of Denbigh and Flint runs, skirts the eastern side of the upper valley of the Alen, and is continued beyond the great bend of that stream in a N.W. direction along the æstuary of the Dee. In the mountainous tract on the east the soil is a mixture of clay and gravel, on a calcareous substratum; more towards the north it is sterile in appearance, but rich in minerals. Beyond this elevated part on the north the land is in general flat and fertile. From the shores of the Dee the ground suddenly rises for three or four miles; tho soil of this part is a productive clay.

The principal part of the land is devoted to pasturage: a small black breed of cattle is bred. The arable land is usually productive, and wheat is exported to Liverpool. Lead, coal, limestone and chert are among the mineral productions of this county. The coal-field extends from the point of Air, at the mouth of the Dee, to the south-east part of the county, increasing in width as it advances to tho south. The lead is found in the lime-stone rocks near Holywell, and on the road from Holywell to Hawarden.

Besides the æstuary of the Dee, there are only a few inconsiderable streams. The largest of them are the Clwyd, the Wheler, the Serrion, and the Alun, all of which abound in fish. The course of the Alen from Moel Fammen to Caerygwle is within this county. It is traversed by the Chester and Holyhead Railway.

Flintshire is divided into five hundreds, containing 16 parishes, one city, county town, and five market towns. The county returns one member to parliament.

Flint, an ancient municipal borough, and the county and election town, is situated on the Chester and Holyhead Railway, and the æstuary of the Dee, 200 miles N. W. of London. Flint, together with the seven contributory boroughs of St. Asaph, Holywell, Mold, Caergwyle, Overton, Rhyddlan, and Caerwis, sends one member to parliament. The town is small and irregularly built: it contains one church, of very limited dimensions. A new county gaol was erected in 1785. The inhabitants are principally occupied in agriculture; and the lead and coal mines in the neighbourhood also employ many persons; there is no particular branch of business or manufacture, but the coasting trade is on the increase, and the town may be considered the port of Chester. The place is also resorted to for sea-bathing. The ruins of the ancient castle of Flint stand on a rock surrounded by a marsh. It was formerly a place of great strength, but was dismantled in the year 1647, by order of the Parliament. Richard II. here surrendered his crown to the Duke of Lancaster, afterwards Henry IV.

The city of St. Asaph, 5½ miles west of Denbigh, though the seat of a bishopric, consists of little more than one street. The cathedral, which is regularly built on the side of a hill at the confluence of the rivers Clwyd and Elwy, whence the Welsh name of the place, Llan Elwy, or the Church on the Elwy, is 170 feet long and 90 feet deep: it is a plain building, without anything that merits particular description. The parish church is a small building. The episcopal palace is spacious and convenient. Near St. Asaph there are vestiges of a large Roman encapment.

Holywell is situated on an eminence near the Dee, and the Chester and Holyhead Railway, four miles N. W. of Flint, to which it is a contributory borough. The town consists of one long street, which curves and meets another shorter and nearly parallel, and one meeting these at right angles. At the base of a hill on the north side of the town is the Holy Well of St. Winifred, from which the place derives it name, and to which miraculous powers were formerly attributed. It has been estimated that this copious source discharges 21 tons or 84 hogsheads of water every minute. The spring rises in a polygonól basin. constructed of stone, over which there is a chapel, said to have been erected about the time of Henry VII. Immediately on issuing from the ground it forms a full stream, which, after flowing for two miles, falls into the river Dee. During its short course it turns a large corn mill and four cotton mills, and

gives motion to the various machinery of a copper smelting house, of a copper smithy, of a brass factory, a calamine calcinary, and various other works. In modern times a miraculous cure is recorded of this wonderful spring. It is said that in 1805 a young woman with a paralytic side, a curvated spine, and otherwise afflicted with a complication of diseases, was restored to perfect health, in one moment, by one immersion in this potent well. (See *Authentic Documents relative to the Miraculous Cure of Winifred White, at St. Winifred's Well*, by the Rev. John Milner.) To the south-east of the town is the great lead mine which was opened in 1774, and worked for a long time under the most discouraging circumstances. After making a tunnel through the solid rock for about a mile, perseverance was at length rewarded by the discovery of a rich vein. The subterraneous passage thus made serves the double purpose of a drain to carry off the water, and a canal to carry off the ore by means of boats. Some of this ore contains a sufficient quantity of silver to defray the expense of extracting it: some thousand ounces of silver are said to be annually obtained. Calamine is likewise procured in large quantities, which is used on the spot in the manufacture of brass. The limestone and chert, which form the rocky substance, are likewise applied to useful purposes. The chert, which is used in the manufacture of porcelain, is got out in large quantities, and sent to the Shropshire and Staffordshire potteries. In the vicinity are oval pits, the produce of which feeds the various works. The numerous articles produced and manufactured are exported by the Dee. Owing to the mineral wealth of the neighbourhood, the abundance of water-power, and a favourable situation near a navigable river, Holywell has grown up into a large and flourishing place.

Rhyddlan, or Rhuddlan, is a small borough town, on the east bank of the river Clwyd, about two miles above its entrance into the sea, and three miles from St. Asaph. At high water the Clwyd is navigable for vessels of 70 or 80 tons, as far as Rhuddlan bridge. There is some export trade in timber, and still more of corn, and a steam-packet plies between this town and Liverpool. Some lead mines are worked near the town. Rhyddlan is a contributory borough to Flint. It was formerly one of the most considerable towns in North Wales, and there are still some considerable remains of the castle, which was erected by Edward I. on the Clwyd. A castle was erected at Rhyddlan by a Welsh prince in the early part of the eleventh century, but there are no remains of it. Rhyl is a bathing-place on the Chester and Holyhead Railway in the parish of Rhyddlan.

Caerwys, a small town, situated on rising ground 45 miles west of Flint, is also a contributory borough to Flint. It was formerly a city of note, and the county town until 1672, but it is now a mere agricultural village. It was here that the bards of Wales used to hold their Eisteddfod, or general meeting, at which the prize of a small silver harp was awarded by the judge, to him who best deserved it.

Mold is a small market town, six miles south of Flint. The church is a handsome structure, in the perpendicular style of the fifteenth century. To the north of the town there are traces of the ditches which surrounded the ancient castle. The town consists mainly of one street, which is indifferently built. Mold is now the assize town for the county. The coal, lead, and iron mines in the neighbourhood give employment to a great number of persons. Cotton twist is also manufactured at Mold.

Caergwyle, also a contributory borough to Flint, is situated about 11 miles S. S. E. of that town. The population of the place is entirely agricultural. Caergwyle is conjectured to have been a Roman station from the name and remains found on the spot. The castle, which stood on a hill, is now a complete ruin.

Hawarden is a considerable town near the Chester and Holyhead Railway, on a small stream, seven miles S. E. of Flint, which runs into the Chester new channel of the Dee. The principal street is well paved, and the houses well built. The church is a plain substantial building. On an eminence are the ruins of the old castle, round the chief remaining part of which is a fine tower on a mound. There is a large iron foundry in the town, and both wrought and cast iron goods are sent to Chester, whence they are distributed over different parts of the kingdom. There are also considerable potteries in

the vicinity, in which various articles are made of three different kinds of clay. There are two rail-roads, which communicate with the river, and also coal-pits in the vicinity. The living is a rectory, of the annual value of 2154*l*. There is a grammar school at Hawarden, and also other schools.

Overton, a small market town on the Dee, 21 miles S. S. E. of Flint, one of its contributory boroughs. The population is almost entirely agricultural. Overton is in the distant part of Flintshire, on the east side of the Dee. The church is a fine building. There are four annual fairs.

There were probably Roman stations in this county at Mold, Flint, Caergwyle, and Caerwys. Bangor, on the east side of the Dee, is also supposed to be on or near the site of the Roman Bovium, and Varae at Bodfari. At Bangor there was also, in early times, a very large monastery, which was destroyed by the Saxons. Offa's Dyke runs through the south-west part of the county; and Watts' Dyke may be traced for a great extent in the eastern part of the county, running up to the neighbourhood of Holywell.

The Isle of Man.

The Island of Man lies in the middle of the Irish sea, 16 miles south from Burrow Head, and 27 south-east from the Mull of Galloway in Scotland; 34 west from St. Bees Head, 40 west from Whitehaven, 50 north-west from Fleetwood, and 80 north-west from Liverpool, in England; 40 north from Anglesey, and 28 from Strangford, in Ireland. To the north-west of Man is the North Channel, and to the south, St. George's Channel, each opening direct to the Atlantic. The neighbouring shores are those of Galloway, Cumberland, Lancashire, North Wales, Anglesey, and Ulster, from which the island, being high, can be seen.

It lies from N.N.E. to S.W., between 54° 4′ and 54° 27′ N. lat., and 4° 17′ and 4° 43′ W. long., being about 30 miles long, and its breadth between 8 miles and 11 miles, but tapering off north-east and south-west to narrow headlands.

The northernmost of these is the Point of Ayre, but to the south small islands prolong the line of land. Maughald Head, to the north-east, is a headland, forming, with the Point of Ayre, one of the shores of Ramsey Bay. This bay is the only one, and is about eight miles across and four deep. The soundings are seven fathoms. There are, besides the Ramsey Bay, many smaller havens, as Groudale Creek, Douglas Haven, Port Sodrick, Derby Haven, Castletown Haven, Poolvash Bay, and Port St. Mary, on the east shore; and Port Erin, Glennay Creek, Peel Haven, and Glenwillin, on the west shore.

The tides meet in the Irish sea on each side of the island. The soundings outside are from 20 to 40 fathoms, but close in shore, seven fathoms. To the north-east are sand banks. There are several lighthouses.

It has been already stated (p. 3) that the mountain formation is a continuation of that of Scotland. The hills form a range running through the length of the island, and make three chains connected by table-lands, and having three narrow openings. Snafield, so named by the Northmen, is in the north midland, near Ramsey, and is the highest peak, being 2004 feet above the level of the sea. North Barrule is 1804 feet high. From these hills England, Scotland, Ireland, Holyhead, Anglesey, and Wales can be seen in fair weather.

The hills throughout the island are composed of mica slate and clay slate, but the north of the island is marine tertiary of the Pleistocene age. In these latter are likewise found freshwater beds, with fresh-water animals, and also the bones of the Cervus Megaceros or Irish elk. Langness Point, in the south, is composed of carboniferous limestone with many fossils, old red sandstone, and conglomerate, traversed by trap dykes.—(*J. A. Knipe.*) Near Peel is old red sandstone, and near Castletown, lower limestone. Boulders of granite and syenite from the Scotch hills are found. The island is rich in minerals.

The rivers are very short, the longest about 15 miles long. They are the Neb, flowing to Peel, the Sulby, flowing to Laxey, the Doe and Glass, which run to Douglas, and some smaller.

The circuit of the island is about 75 miles, the area 220 square miles, of which about 80 is hill, common, and waste, and about 140 fit for tillage. The northern part has the best soil, the southern is a light clay, and in the

lower parts clay and peat with good marl.

Much rain falls, the average being 37 inches. The mean height of the thermometer in summer is 77°, and in winter 26°, and the mean of the year 49°. The harvests are late. Of the arable land about 5000 acres are said to be laid down in wheat, yielding the same average as in Ireland, namely, four quarters, or 20,000 quarters in all; 5000 acres are in barley, yielding 20,000 quarters; and 13,000 acres in oats, yielding 40,000 quarters; altogether about 80,000 quarters, which seems a large crop of grain for such an island.

The husbandry has been slowly improving for above a hundred years. On the hills grazing is carried on; and the climate is so mild that grass grows even on the round top of Snafield. The horses or ponies, cattle or kyloes, and sheep, are all small and hardy. The latter are called slaughter sheep, and their wool is worked up into stockings.

The population in 1841 was 47,975, of whom 42,184 were born in the island. Only part of the people belong to the Germanic race, being of English and Norwegian blood, the others being Irish Celts, but differing slightly from the main body of the Irish. This small nation is called Manx, and has a written language, but in which there are not many books. The old institutions are Norwegian, but of late years English manners prevail more, and English is extensively spoken.

The island forms a small kingdom, divided into 6 sheadings, 17 parishes, 28 townships, and 750 portions or quarter-lands.

The six sheadings are Ayre, Glenfaba, and Michael in the north and west, Garff in the east, Middle and Rushen in the south. The towns are Douglas, Castletown, Peel, and Ramsey.

The resources of the island are considerable, and are derived from its husbandry, mines, fisheries, and the resort of the English to Douglas and other watering places. Its trade is mostly to the neighbouring shores and to the ports of Liverpool, Fleetwood, Whitehaven, Glasgow, Belfast, and Dublin, with which there is steam communication. The trade is carried on mostly at Douglas, but partly from the other towns and harbours.

The mineral productions are lead, copper, silver, iron, manganese, roofing-slate, drawing-slate, limestone, and other building stones.

The lead ore worked is mostly galena, and it yields from 90 to 130 ounces of silver per ton. Silver is likewise got from copper pyrites, which yields five ounces per ton. All these productions are shipped. Near Laxey are much lead, copper, and tin; at Portmoor, iron; at Cornah Creek, copper. These are in the north-east, between Ramsey and Douglas. In the south-midland are the Foxdale and other lead mines. In the south is a copper mine.

The herring fishery employs 350 boats, with from 2000 to 3000 fishermen. The boats are from 15 to 30 tons burthen.

The island was first peopled by the Euskardians, afterwards by the British Celts, who were driven out by Irish. The Romans paid little attention to it. On the Northmen coming into these seas, the island was conquered by them, and has since remained under Germanic rule. Magnus, king of Norway, sold the kingdom to Alexander III., king of Scotland. Soon afterwards the English took it. In 1307 the Earl of Cornwall was king, afterwards Henry Beaumont.

At length it came to the Stanleys, Earls of Derby, and was held by that dynasty until the last century. They had, however, long given up the title of king. Having passed, by the female line, to the Murrays, Dukes of Athol, they have by successive treaties sold all the royal rights to the kingdom of England. Man, however, still forms a separate kingdom, with its own legislature and laws and many privileges, but under the imperial jurisdiction of England.

The legislative power is in the House of Keys, which consists of 24 of the chief landowners of the island, now self-chosen, but formerly chosen by the people. The supreme court is that held by the Government; under it is the House of Keys; next in rank, the courts of chancery and exchequer; below these, the common law courts of the sheadings; and below these, again, the small-debt courts of the high bailiffs in five of the towns.

The bishop of the island, the archdeacon, and the vicar general hold will and ecclesiastical courts, from which the appeal is to the archbishop's court at York.

The high court of appeal is the English privy council.

The old rights are still so far kept up that law is cheap the people can do without lawyers, and all the laws are in one small book.

The taxes are raised by charges on ships, harbour dues, dogs, carriages, and public houses. The two latter taxes are reserved for keeping up the harbours, roads, and bridges. The customs duties belong to England.

The established religion is that of the Church of England; and there is a bishop, called of Sodor and Man, who is under the Archbishop of York.

There are schools in each parish and in most of the villages, and in which English and Manx are taught; and there is a college, called King William's College.

There are, at Bishop's Court and elsewhere, rings of stones called Celtic temples, and very many remains of the Northmen, as the Tinwald mound, barrows, weapons, money, and Runic writing.

Douglas is the largest town, and is a busy place much frequented by English visitors, and having many English, who dwell here on account of the cheapness of provisions. There is a seat of the Dukes of Athol, and many good buildings, though a hundred years ago there were only clay huts. The trade is considerable, and there is a pier 520 feet long.

The population in 1841 was 8647. It is in Braddån and Oncham parishes, and there is a considerable population around it There is a house of industry.

Castletown is the capital of the kingdom, and is in Maleu parish, on the south shore. Here are held the House of Keys, the courts of chancery and exchequer, and the court of common law for the sheadings of Middle and Rushen. Castle Rushen, the stronghold of the island, and the abode of the kings, was built by King Guthred in 960. It is now in ruins.

King William's College has 200 pupils. There are barracks, a jail, churches, and chapels. The population in 1841 was 2283.

Ramsey is the capital of the north. It has 2154 people, and is thriving from its neighbourhood to the lead and iron mines.

Peel is the only seaport town on the west shore. It has a castle on a small island, and near it two churches, those of the St. Patrick and the Cathedral of St. Germain, now used only for burials. It has a grammar school. The population, 2133.

The chief villages are Ballasalla with 516 people, Kiondraughad with 363, Michael with 288, Port St Mary with 486, Colby with 149, Laxey with 195, Sulby, Ballamoar, Derbyhaven.

The Calf of Man is an island about five miles in circumference, distant one mile south from the main. It has 35 people, and two lighthouses with revolving lights. Some sheep are fed, and turnips grown.

Kitterlins, or Kitterland, is a small rocky island between the Calf of Man and the main.

The Chickens are rocks to the south of the Calf of Man.

POLITICAL GEOGRAPHY

OF

ENGLAND AND WALES.

STATISTICAL DIVISION.

THE introduction to the head of Political Geography merely gave a sketch of the history, civil and ecclesiastical divisions, and administrative government of Great Britain, leaving the statistical details necessary to complete the description of England and Wales for this latter part, an arrangement by which in the progress of a long serial work facility was given for the introduction of the latest information on those moral phenomena which are always changing, as much as those of the physical character of the country are fixed and established. The completion of the whole work thus designed, likewise gives the opportunity of supplying information which may have been omitted, and of noticing those changes to which the rapidity of social progress has lately given rise.

This division of the work embraces six sections, and includes the statistical tables alluded to in the introduction*.

The first section treats of the population.

The second, of production and consumption.

The third, of the railway system.

The fourth section treats of trade.

The fifth, of taxation.

The sixth section is devoted to the progress of the country, moral and material.

POPULATION.

The area of England is not yet accurately ascertained. At p. 7, it is taken at 50,387· square miles, and that of Wales at 7,426; but, as it is here necessary to follow the population returns, it is taken, on Rickman's computation, as 49,641 square miles, and 31,770,615 acres for England and 7,425 square miles and 4,572,000 acres for Wales. There are likewise considerable discrepancies in the returns for the several shires, but these are of no real moment, for it should be borne in mind that the value of statistics does not depend on minute details, but on broad aggregate results. The refinement which descends to long decimals and small fractions is apter to miss than to attain correctness of deduction.

It may here be observed, that, besides the division into shires, hundreds, and parishes, named previously (p. 126), other divisions are now in operation, which require statistical notice. The larger shires have all, for electoral purposes, been divided, and these districts possess, in many cases, distinct political and social interests, and have been adopted for many purposes, as for the jurisdiction of the new law courts. Under the poor-law a new territorial system has likewise come into active operation, which is the basis of the returns of the registration department, namely, the union districts, and which commonly take their name from a leading market town within their bounds. So, likewise, the poor-law has restored the ancient township or mark; for although in the south the old civil township and the later ecclesiastical parish are commonly conterminous, that is not the case in the north; and the townships there have mostly had separate administrations for the poor and highway rates; so, too, under the union system the townships elect guardians. The parish being stripped of its civil

* Page 1.

functions, and being now in many cases, separated for ecclesiastical purposes, that division is of less importance.

Some of the outlying parts of shires have been added to those in which they are locally seated, and many new parishes made, under general acts. The privy council exercise general powers over the boundaries of shires, boroughs, unions, and parishes, and the county magistrates over the magisterial divisions.

The establishment of the Union system has, therefore, deprived the parishes or townships of the direct management of the poor (p. 128), though they retain the control of the highways. Each township still elects its overseer for the collection of rates, but the administration is in the hands of the board of guardians of the union of parishes and townships, to which each township sends one guardian chosen yearly by the owners of property and rate-payers, who have votes according to the extent of ownership or rating. The township workhouses have been abolished, and each union has its workhouse or workhouses, with school and infirmary, and district surgeons and relieving officers for local and out-door relief. Some of the unions join for district lunatic asylums and infant schools.

The next table shows the shires of England and Wales [in capitals, as "DERBYSHIRE,"], the electoral divisions [with figures after showing the number of county members sent as "North Derbyshire (2)," that is, returning two members], and important local divisions [without figures as "Peakland]."

These local divisions are not commonly stated, but many of them are larger than counties, have separate organization (as Lindsey and Ely), and are of considerable importance, and they exhibit more fully the distribution of the population. They for the most part form distinct geographical districts.

The table further shows the number of townships in each division, which, for the reasons already assigned, is more useful than the number of parishes, and which serves to show the relative organization of the several districts in communities.

The other columns show the area in English square miles and in acres, the population in 1841, and the population per square mile. The relative density of the manufacturing and hill population is conveniently illustrated by the insertion of the local divisions. It ranges between 55 in Tindale, 73 to 75 in Westmoreland, Eskdale, North Northumberland, and Allendale, and 1108 in Halifax, 1764 in West Surrey, and 5590 in Middlesex.

Shires, Parliamentary and Local Divisions.	No. of Parishes and Townships.	Area, Square Miles.	Area in Acres.	Population 1841.	Population per Square Mile.
1. MIDDLESEX (2), AND LONDON CITY	284	282	180,480	1,576,636	5,590
2. HERTFORD (3)	177	630	403,200	157,207	249
Cashio or St. Alban's Liberty	28	136	87,220	29,947	216
3. BUCKINGHAM (3)	306	738	472,320	155,983	211
4. BEDFORD (2)	166	463	296,320	107,936	233
5. HUNTINGDON (2)	118	372	238,080	58,549	160
6. CAMBRIDGE (3)	210	857	548,480	164,459	191
Isle of Ely	38	379	242,630	61,610	162
7. NORFOLK AND NORWICH	783	2,024	1,295,360	412,664	206
East Norfolk (2)	—	845	541,660	168,955	198
West Norfolk (2)	—	1,175	753,700	243,7[illegible]	207
8. SUFFOLK	561	1,515	969,600	315,075	278
East Suffolk (2)	—	754	482,430	170,762	226
West Suffolk (2)	—	760	487,170	144,311	189
9. ESSEX	446	1,533	981,120	344,979	225
North Essex (2)	—	765	489,490	177,861	232
South Essex (2)	—	787	491,630	167,118	213
0. KENT	4[illegible]5	1,557	996,480	548,337	352
East Kent (2)	—	690	441,830	319,797	463
Romney	32	195	125,070	26,519	135
Oxney	3	13	8,380	1,632	124
Thanet Island	—	40	25,880	31,466	785
Sheppey	—	20	13,340	10,741	503
West Kent (2)	—	868	554,650	228,540	247

Shires, Parliamentary and Local Divisions.	No. of Parishes and Townships.	Area, Square Miles.	Area in Acres.	Population 1841.	Population per Square Mile.
11. Sussex	389	1,466	938,240	299,753	204
East Sussex (2)	—	845	542,950	192,317	227
West Sussex (2)	—	617	395,290	107,436	174
12. Surrey	193	759	485,760	582,678	766
East Surrey (2)	—	497	318,120	95,765	192
West Surrey (2)	—	276	177,640	486,913	1,764
13. Hampshire and Southampton	571	1,625	1,040,000	355,004	218
North Hants (2)	—	966	618,050	129,501	134
South Hants (2)	—	525	336,140	183,953	350
Isle of Wight (1)	—	135	86,810	42,550	322
14. Berks (2)	281	752	481,280	161,147	214
15. Oxford (3)	386	756	488,840	161,643	215
16. Gloucester with Bristol and Gloucester Cities	494	1,258	805,120	431,383	343
East Gloucester (2)	—	765	489,680	192,912	252
West Gloucester (2)	—	492	315,440	238,471	489
17. Wilts	515	1,367	874,880	258,733	190
North Wilts (2)	—	353	227,700	152,286	431
South Wilts (2)	—	1,011	647,180	106,447	105
18. Dorset (3) and Poole	261	1,096	613,840	175,043	169
19. Somerset	756	1,645	1,052,800	435,982	265
East Somerset (2)	—	759	486,010	256,186	337
West Somerset (2)	—	885	566,790	179,796	203
20. Devon and Exeter	588	2,585	1,654,400	533,460	207
North Devon (2)	—	1,254	802,900	182,966	148
South Devon (2)	—	1,330	851,500	350,494	263
21. Cornwall	246	1,330	851,200	341,279	256
East Cornwall (2)	—	828	530,000	141,000	180
West Cornwall (2)	—	500	320,000	200,000	400
Scilly Islands	—	8	5,570	2,582	280
22. Monmouth (2)	166	496	317,440	134,355	270
23. Hereford (3)	335	863	552,320	113,878	131
24 Worcester	286	723	462,720	233,336	309
East Worcester (2)	—	342	219,715	112,960	330
West Worcester (2)	—	380	243,005	120,476	317
25. Warwickshire and Coventry City	351	897	574,080	401,715	448
North Warwick (2)	—	414	264,600	308,212	744
South Warwick (2)	—	584	309,480	93,503	150
26. Northampton	406	1,016	650,240	199,228	196
North Northampton (2)	—	525	337,100	91,223	173
Peterborough	36	81	52,860	17,362	213
South Northampton (2)	—	490	313,640	108,005	224
27. Leicester	382	806	515,840	215,867	267
North Leicester (2)	—	397	253,930	87,503	220
South Leicester (2)	—	409	261,910	128,364	313
28. Rutland (2)	61	149	95,360	21,302	141
29. Lincoln	913	2,611	1,671,040	362,602	139
Lindsey (2)	—	1,524	979,160	197,884	126
Kesteven (2)	—	710	445,560	92,357	130
Holland (2)	—	400	256,320	72,331	180
30. Nottinghamshire and Town	315	837	535,680	249,910	288
North Nottingham (2)	—	447	286,520	119,064	260
South Nottingham (2)	—	390	249,160	130,846	335
31. Derbyshire	385	1,028	657,920	272,217	264
North Derbyshire (2)	—	600	383,940	127,434	237
Peakland	92	318	203,190	54,463	172
South Derbyshire (2)	—	427	273,980	144,773	334
32. Staffordshire and Lichfield City	425	1,184	757,760	510,504	431
North Staffordshire (2)	—	700	448,080	208,691	268
South Staffordshire (2)	—	485	309,680	301,813	622
33. Shropshire	774	1,343	859,520	239,048	170

Shires, Parliamentary and Local Divisions.	No. of Parishes and Townships.	Area, Square Miles.	Area in Acres.	Population 1841.	Population per Square Mile.
North Shropshire (2)	—	528	333,990	119,838	227
South Shropshire (2)	—	820	525,530	119,210	145
34. CHESHIRE	527	1,052	673,280	395,660	379
North Cheshire (2)	—	555	355,740	226,383	407
South Cheshire (2)	—	496	317,540	169,277	341
35. LANCASTER	507	1,766	1,130,240	1,667,054	944
North Lancashire (2)	—	1,066	682,810	428,188	400
Furness	40	215	137,490	26,747	124
South Lancashire (2)	—	698	447,430	1,238,866	1,775
Whalley Parish	53	168	108,000	111,741	1,795
36. YORKSHIRE	1,855	5,283	3,830,040	1,591,480	301
North Riding (2)	603	2,055	1,315,200	204,122	103
Cleveland	—	305	195,570	36,612	120
Rydale	61	190	121,970	19,729	103
Allertonshire	35	80	51,500	10,025	125
West Riding (2) and York	843	2,654	1,708,680	1,192,422	448
Ainsty and York	75	86	55,040	38,321	448
Hallamshire	—	28	22,830	111,091	395
Halifax (2)	26	118	75,740	130,743	1,108
Ripon	37	79	50,640	15,165	192
East Riding (2) and Hull	411	933	661,120	194,936	209
Holderness	101	250	160,470	33,766	131
Hullshire	11	18	11,600	45,173	—
37. WESTMORELAND (2)	153	762	487,680	56,454	74
Kendal	52	230	147,410	18,441	89
38. CUMBERLAND	340	1,523	974,720	178,038	116
East Cumberland (2)	—	824	528,350	95,007	115
Eskdale	—	318	204,120	24,074	75
West Cumberland (2) or Allerdale	—	697	446,370	83,031	119
39. DURHAM	330	1,097	702,080	324,284	298
South Durham (2)	—	609	388,340	96,410	158
North Durham (2)	—	490	313,740	227,874	465
Norhamshire	12	28	18,810	3,757	135
Islandshire	19	40	26,820	8,830	220
Bedlingtonshire	7	14	8,910	3,155	225
40. NORTHUMBERLAND AND NEWCASTLE	609	1,871	1,197,440	250,278	133
North Northumberland (2)	—	932	597,100	67,016	74
Bamborough	55	109	69,650	10,944	100
Berwick	1	8	5,120	8,484	1,060
Glendale	30	168	107,200	12,466	73
South Northumberland (2)	—	968	620,310	183,262	188
Tindale	—	804	514,660	44,233	55
Hexhamshire	5	37	24,060	1,217	337
Allendale	9	72	45,810	5,729	79
Total of England	17,476	49,641	31,770,615	14,995,138	302
41. GLAMORGAN (2)	217	742	506,880	171,188	230
42. BRECKNOCK (1)	144	754	482,560	55,603	73
43. CAERMARTHEN (2)	178	974	623,360	106,326	108
44. PEMBROKE (1) and HAVERFORDWEST	175	610	390,400	88,044	144
Narberth	25	—	—	12,980	—
45. CARDIGAN (1)	138	675	432,000	68,766	102
46. RADNOR (1)	92	425	272,640	25,356	60
47. MONTGOMERY (1)	304	839	536,960	66,919	79
48. MERIONETH (1)	121	663	424,320	39,332	59
49. CARNARVON (1)	100	544	348,160	81,093	146
50. ANGLESEA (1)	87	271	173,440	50,891	180
Holyhead	1	2	957	3,869	1,700

Shires, Parliamentary and Local Divisions.	No. of Parishes and Townships.	Area, Square Miles.	Area in Acres.	Population 1841.	Population per Square Mile.
51. DENBIGH (2)	289	633	405,120	88,866	140
Ruthin	32	—	—	11,208	—
52. FLINT (1)	144	244	156,160	66,919	209
Total of Wales	1,984	7,425	4,752,000	911,603	122
ISLE OF MAN	29	220	140,000	47,975	218
Calf of Man	—	1	—	35	—
GUERNSEY	11	23	15,000	26,649	1,160
ALDERNEY	1	5	3,000	1,030	200
SARK	2	2	1,400	785	400
Herm	1	1	500	38	50
JERSEY	18	62	47,544	47,544	766
Caskets	—	—	—	8	—
Jethou	—	—	—	6	—
Le Marchant	—	—	—	5	—
Total of Channel Isles	33	113	67,000	76,046	750

It is necessary to have the materials for knowing the movement of the population in the various districts, for which a table is given showing the population at the several censuses of 1801, 1811, 1821, 1831, and 1841, in the shires of England, in Wales, and in the Islands.

SHIRES.	POPULATION.				
	1801.	1811.	1821.	1831.	1841.
BEDFORD	63,393	70,213	83,716	95,483	107,936
BERKS	109,215	118,277	131,977	145,389	161,147
BUCKS	107,444	117,650	134,068	146,529	155,983
CAMBRIDGE	89,346	101,109	121,909	143,955	164,459
CHESHIRE	191,751	227,031	270,098	334,391	395,660
CORNWALL	188,269	216,667	257,447	300,938	341,279
CUMBERLAND	117,230	133,744	156,124	169,681	178,038
DERBY	161,142	185,487	213,333	237,170	272,217
DEVON	343,001	383,308	439,040	494,478	533,460
DORSET	115,319	124,693	144,499	159,252	175,043
DURHAM	160,361	177,625	207,673	253,910	324,284
ESSEX	226,437	252,473	289,424	317,507	344,979
GLOUCESTER	250,809	285,514	335,843	387,019	431,383
HAMPSHIRE	219,656	245,080	283,298	314,280	355,004
HEREFORD	89,191	94,073	103,243	111,211	113,878
HERTFORD	97,577	111,654	129,714	143,341	157,207
HUNTINGDON	37,568	42,208	48,771	53,192	58,549
KENT	307,624	373,095	426,016	479,155	548,337
LANCASTER	672,731	828,309	1,052,859	1,336,854	1,667,054
LEICESTER	130,081	150,419	174,571	197,003	215,867
LINCOLN	208,557	237,891	283,058	317,465	362,602
MIDDLESEX	818,129	953,276	1,144,531	1,358,330	1,576,636
MONMOUTH	45,582	62,127	71,833	98,130	134,355
NORFOLK	273,371	291,999	344,368	390,054	412,664
NORTHAMPTON	131,757	141,353	162,483	179,336	199,288
NORTHUMBERLAND	157,101	172,161	198,965	222,912	250,278
NOTTINGHAM	140,350	162,900	186,873	225,327	249,910
OXFORD	109,620	119,191	136,971	152,156	161,643
RUTLAND	16,356	16,380	18,487	19,385	21,302
SHROPSHIRE	167,639	194,298	206,153	222,938	239,048
SOMERSET	273,750	303,180	355,314	404,200	435,982
STAFFORD	239,153	295,153	345,895	410,512	510,504
SUFFOLK	210,431	234,211	270,542	296,317	315,073

SHIRES.	POPULATION. 1801.	1811.	1821.	1831.	1841.
Surrey	269,043	323,851	398,658	486,334	582,678
Sussex	159,311	190,083	233,019	272,340	299,753
Warwick	208,190	228,735	274,392	336,610	401,715
Westmoreland	41,617	45,922	51,359	55,041	56,454
Wilts	185,107	193,828	222,157	240,156	258,733
Worcester	139,333	160,546	184,424	211,365	233,336
Yorkshire	858,892	986,174	1,173,187	1,371,359	1,591,580
East Riding	110,992	134,487	154,010	168,891	194,936
North Riding	158,225	169,391	187,452	190,756	204,122
West Riding	589,675	682,346	831,725	1,011,712	1,192,422
Wales	541,546	611,788	717,438	806,182	911,603
Man and Channel Isles	—	—	89,508	103,710	124,040
Total	8,872,980	10,150,615	12,068,383	14,000,897	16,030,781

At the end of the several shires has been given the population of the market towns in 1831; the following table gives the population in 1841. In order to enable comparisons to be made as to the rate of increase or otherwise, the same division is here commonly taken, and in addition other information is sometimes given. The table further includes all the other towns within each shire. The lists of market towns are now arranged according to amount of population, so far as the same can be ascertained, and throughout the endeavour is to show the *town* population, which has not before been done to such an extent. The statistics of the town population of England are much more obscure than is supposed, and although lists are published of towns of 5000, 10,000, and so forth, not one of these is correct. In the case of the small country towns the parish population is commonly given, of which the town may form a very small part. Of the larger towns there may be no less than four estimates taken, namely, the parish population, the municipal borough population, the parliamentary borough population, and the population including the suburbs. Where a suburb lies in another shire or on the other side of a river, it is very seldom taken into account in such enumerations, and thus an incomplete view is taken. What is wanted for statistical inquiries is the whole *town* population, whether in the heart of the town or the suburbs, and this is here attempted to be given by adding together in each case the several constituent parts of the population. For this reason the figures now given will often differ from those usually quoted from the population returns.

In some cases P is put to denote that the return is that of the parish, T that of the town, B of the borough. Where P stands alone, the real town population must be considered as less than the figures here given.

1.—Middlesex and London.

London City within the Old Walls		54,626
Ditto, without the same		70,382
Finsbury B		265,043
Tower Hamlets, B and Liberty		419,730
Marylebone B		287,465
Marylebone P	138,164	
St. Pancras P	123,479	
Paddington P	25,173	
Westminster City		222,053
Kensington Division		169,625
Lambeth B		197,412
Southwark B		142,620
Greenwich B		72,748
London in Middlesex		1,475,289
" Surrey		400,309
" Kent		98,963
" Essex		23,954
Total London		1,998,475
Brentford, Old and New, and Kew		8,155
Enfield P		9,367
Edmonton P		5,615
Uxbridge T		3,219
Staines and Egham		7,935
Hounslow T		3,063
Chiswick P and T		5,811
Hampton P		3,697
Harrow T		1,359
Edgeware T		659

2.—Hertfordshire.

Hertford and Ware	10,103

St. Alban's	6,497
Watford and Bushey	6,372
Hitchin	5,658
Cheshunt	5,402
Hemel Hampstead	5,901
Rickmansworth P	5,026
Bishop Stortford	4,681
Tring	3,605
Barnet (Chipping) and Hadley	3,430
Hatfield (Bishop's) P	3,646
Great Berkhampstead	2,802
Baldock	1,807
Hoddesdon	1,743
Standon	1,240
Stevenage	1,725
Royston	2,002
Buntingford	
Barkway T	847
Welwyn	1,395
Abbot's Langley P	2,115

3.—Buckinghamshire.

Buckingham	4,054
Aylesbury	6,429
Newport Pagnell	3,569
Great Marlow	4,480
Chesham P	5,593
Amersham P	3,645
Olney T	2,362
High Wycombe	3,184
Wendover	1,877
Prince's Risborough	2,206
Ivinghoe	740
Beaconsfield	1,732
Colnbrook T	1,050
Winslow	1,333
Fenny Stratford T	1,033
Brill T	1,449
Great Missenden P	2,225
Stony Stratford T	1,757
Wolverton P and T	1,261
Slough T	1,189

4.—Bedfordshire.

Bedford	9,178
Luton	5,827
Leighton Buzzard P	3,965
Biggleswade	3,641
Dunstable P	2,582
Toddington	2,001
Woburn	1,914
Ampthill	2,001
Potton	1,781
Harrold	1,007
Shefford T	889

5.—Huntingdonshire.

Huntingdon	3,567
Ramsey	3,680
St. Ive's	3,514
St. Neot's	3,123
Godmanchester	2,152
Kimbolton	1,634
Warboys P	1,800
Yaxley P	1,211
Holywell P	959

6 A.—Cambridgeshire.

Cambridge	24,453
Soham	4,091
Newmarket	2,956
Caxton P	558
Linton P	1,838
Isleham P	2,197

6 B.—Isle of Ely.

Wisbeach	8,530
Ely	6,825
Thorney P	2,159
Chatteris P	4,813
March P	5,706
Whittlesey P	6,874

7.—Norfolk and Norwich.

Norwich	62,344
Yarmouth	27,865
King's Lynn	17,580
Wymondham P	5,179
East Dereham P	3,834
Wells	3,504
Thetford	3,934
Swaffham T	3,358
Diss	3,205
North Walsham	2,655
Aylsham P	2,448
Market Downham	2,953
Fakenham T	2,158
Attleborough P	1,959
Holt T	1,604
Hingham T	1,691
Old and New Buckenham T	1,971
Harleston	1,425
Walsingham T	1,581
Kenninghall P and T	1,389
Cromer T	1,240
Loddon	1,197
Cawston	1,130
Methwold P	1,411
Mattishall	1,155
Burnham Westgate	1,126
Watton	1,188
East Harling	1,062
Foulsham	1,048
Snettisham P	1,151
Worsted P and T	831
Litcham	821
Stoke Ferry	663
Castle Rising P	358
Blakeney P and T	1,021
Cley next the Sea T	823

8.—Suffolk.

Ipswich	25,384
Bury St. Edmund's	12,538
Sudbury	5,085
Woodbridge	4,954
Bungay and Earsham	4,840
Lowestoft	4,647
Beccles	4,086
Hadleigh	3,679
Stow Market	3,043
Long Melford	2,597
Framlingham	2,523
Halesworth	2,662

Eye	2,493
Haverhill P and T	2,451
Brandon P and T	2,002
Southwold	2,186
Lavenham	1,871
Debenham	1,667
Clare	1,550
Mildenhall T	1,456
Aldborough	1,557
Needham Market	1,353
Mendlesham	1,340
Saxmundham	1,097
Ixworth	1,064
Neyland	1,114
Orford	1,014
Bildestone or Bilston	857
Botesdale	633
Dunwich	237
Market Wickham	1,400

9.—Essex.

Colchester	17,790
Chelmsford	9,043
Braintree and Bocking	7,101
Saffron Walden	5,111
Halstead P	5,710
Romford T	5,317
Maldon	5,144
Harwich	3,829
Barking T	3,751
Ilford T	3,742
Coggeshall	3,408
Witham	3,158
Dunmow P	2,792
Thaxted	2,527
Waltham Abbey T	2,041
Brentwood T	2,362
Epping T	1,945
Hatfield Broad Oak	1,968
Rayleigh T	1,547
Rochford	1,722
Grey Thurrock	1,464
Manningtree T	1,255
Billericay T	1,284
Ongar T	870
Ingatestone T	856
Dagenham P and T	2,294
Burnham P and T	1,735
Harlow P	2,315
Hornchurch P and T	2,399
Sible Hedingham	2,322
Brightlingsea P	2,055
Dedham	1,787
Orsett	1,390
Leigh	1,271
Southend	1,000

10.—Kent.

Rochester, Chatham, Brompton, Gillingham, Strood, and Frindsbury	41,422
Dover	19,168
Maidstone	18,086
Canterbury	15,435
Gravesend and Milton	15,670
Ramsgate and St. Lawrence	13,603
Margate	10,679
Deal and Walmer	9,709
Tunbridge Wells	8,302
Sheerness P	8,684
Faversham and Ospringe	6,714
Dartford	5,619
Tunbridge	5,260
Sittingbourne and Milton	4,890
Bromley	4,325
Folkestone	4,144
Cranbrook P	3,996
Sandwich	2,913
Sevenoaks T	2,462
——— P	5,061
Tenterden P	3,620
Ashford	3,082
Goudhurst P	2,711
Hythe	2,265
Lenham P	2,214
Westerham P	2,162
West Malling	1,784
Lydd P	1,509
Charing	1,241
Queenborough	634
Northfleet P and T	3,621
Whitstable P and T	2,255
Herne Bay T	1,572
Broadstairs T	1,459
Aylesford	1,344
Wrotham	2,000
Hawkhurst P	2,656
Crayford P and T	2,151
Erith P and T	2,082
Wye P	1,648
Sandgate T	979
New Romney	955
Greenhithe T	1,056

11.—Sussex.

Brighton	49,924
Hastings	14,934
Lewes	9,199
Chichester	8,512
Horsham P	5,765
Rye	4,031
East Grinstead P	3,586
Petworth	3,364
Arundel	2,624
Cuckfield P	3,444
Battle	3,039
Shoreham T	2,222
Steyning	1,495
Midhurst	1,536
Hailsham	1,586
Seaford T	953
Bramber T	138
Worthing	4,702
Eastbourne	3,015
Rotherfield P	3,077
Bognor	3,000
Littlehampton	2,270
Ticehurst P	2,465
Uckfield	1,534
Newhaven	955
Winchelsea	687

12.—Surrey.

Richmond and Twickenham	10,000

Richmond P	7,760
Croydon	13,627
Kingston	8,147
Guildford and Stoke	6,128
Dorking P	5,638
Chertsey	5,347
Godalming	4,328
Farnham P	6,615
——— T	3,400
Epsom	3,533
Leatherhead T	1,740
Ewell T	1,867
Reigate T	1,604
——— P	4,066
Woking P	2,482
Haslemere T	873
Mitcham	4,532
Walton-on-Thames	2,537
Bletchingley	3,546
Esher	1,261
Merstham	1,130

13 A.—Hampshire and Southampton.

Portsmouth	9,354
Portsea	43,678
Gosport	8,862
Alverstoke	4,648
Total of Portsmouth	66,542
Southampton	27,744
Winchester	10,732
Andover	4,941
Basingstoke	4,066
Fareham P	5,699
Ringwood T	2,387
——— P	3,700
Lymington	3,813
Alton	3,139
Romsey T	1,200
——— P	5,347
Christchurch T	1,922
——— P	5,994
Fordingbridge T	1,242
——— P	3,073
Odiham T	1,148
——— P	2,817
Kingsclere P	2,732
Bishop Waltham	1,209
Havant P	1,445
Hambledon P	2,200
Whitchurch	1,505
New Alresford T	1,578
Petersfield T	1,448
Stockbridge T	937
Millbrook or Redbridge	4,232
Titchfield	2,158
Droxford	1,642
Lyndhurst T	1,380
Emsworth T	1,165
Hayling	669
Bournemouth T	400

13 B.—Isle of Wight.

Newport and Carisbrooke	9,435
Ryde T	5,840
Cowes, West	4,107
Cowes, East	880
Brading P and T	2,701
Yarmouth P and T	567
St. Helens P and T	1,373
Niton P and T	613
Ventnor (1847)	2,060

14.—Berkshire.

Reading and Caversham	20,579
Windsor, Eton, and Clewer	15,471
Newbury	6,379
Abingdon	5,649
Maidenhead	3,315
Wallingford and Crowmarsh	3,110
Wantage T	2,850
——— P	3,650
Wokingham T	1,756
——— P	3,342
Faringdon P	3,593
Hungerford P	2,724
Lambourn	1,333
East Ilsley	733
Thatcham	2,677
Sunninghill	2,062
Pangbourn and Whitchurch	1,643

15.—Oxfordshire.

Oxford	23,834
Banbury P	7,366
Witney T	3,419
——— P	5,707
Henley	3,622
Bicester	3,022
Woodstock	1,412
Thame P	3,060
Chipping Norton T	2,629
Bampton	1,604
Deddington P	2,025
Burford	1,644
Watlington	1,855
Dorchester	1,078

16.—Gloucestershire, Gloucester, and Bristol.

Cheltenham	31,411
Gloucester	18,561
Stroud P	8,680
Tewkesbury	5,862
Cirencester	6,014
Minchinhampton P	4,890
Bisley P	5,339
Dursley	2,931
Tetbury	2,982
Wotton-under-Edge P	4,702
——— T	1,393
Thornbury T	1,862
Painswick P	3,750
Berkeley P	4,405
——— T	926
Newent T	1,454
——— P	3,099
Winchcomb P	2,613
Coleford	2,208
Chipping Campden	1,521
Marshfield	1,674
Fairford	1,672

Stow-on-the-Wold	1,465
Chipping Sodbury	1,273
Moreton-on-the-Marsh	1,345
Lechlade	1,300
Newnham	1,105
Wickwar	1,125
North Leach	939
Mitcheldean	691
Leckhampton	1,770
BRISTOL AND CLIFTON	140,158

17.—WILTSHIRE.

Salisbury	10,086
Trowbridge	11,050
Devizes	8,011
Warminster	6,211
Bradford P	10,563
——— T	3,836
Westbury T	3,631
——— P	7,588
Melksham T	2,166
——— P	6,236
Calne T	2,483
—— P	5,128
Chippenham T	1,875
——— P	5,438
Marlborough	3,291
Downton P	3,618
Highworth T	891
Mere T	1,719
Malmsbury T	1,507
——— P	2,367
Bedwin T	1,001
Wilton T	1,251
Wootton Bassett	2,990
Swindon	2,172
Cricklade	2,128
Heytesbury	1,311
Lavington	1,115
Amesbury P	1,171
Hindon	772
Ludgershall	600
Box	2,271
Corsham P	3,842
Ramsbury	1,759

18.—DORSETSHIRE.

Weymouth and Melcombe	7,708
Dorchester	6,186
Poole	6,093
Bridport	4,787
Sherborne P	4,798
Shaftesbury	3,170
Blandford-Forum	3,349
Lyme Regis	2,756
Beaminster T	2,968
Wareham	2,746
Wimbourne T	1,687
——— P	4,326
Cranbourne P	2,540
Stalbridge	1,297
Corfe Castle	1,946
Sturminster Newton P	1,920
——— T	995
Cerne Abbas P	1,342
Bere Regis	1,169
Abbotsbury P	1,005
Evershot	666
Swanage	1,990
Allington	1,545
Charmouth	620

19.—SOMERSETSHIRE.

Bath	52,346
Taunton	12,066
Frome	11,849
Bridgewater	10,449
Wells	7,050
Yeovil	7,043
Wellington	5,595
Shepton Mallett	4,831
Crewkerne T	3,768
Glastonbury	3,314
Ilminster	3,187
Wiveliscombe P	2,984
Chard	2,877
Wincanton	2,296
Milverton P	2,154
South Petherton T	1,971
North Petherton P	3,759
Keynsham	2,169
Bruton T	1,885
Milbourne Port	1,740
Somerton P	1,981
Castle Cary T	1,776
North Curry T	1,058
Minehead	1,266
Langport	1,172
Dulverton	1,422
Ilchester	1,068
Axbridge	1,015
Dunster T	739
Watchet	916
Twerton	3,342
Weston-on-Sea	2,103
Pill	1,748
Nailsea	2,550
Portshead	919

20.—DEVONSHIRE AND EXETER.

Plymouth and Devonport	80,009
Exeter	40,965
Barnstaple	10,259
Tiverton T	7,769
——— P	10,040
Tavistock	6,272
Bideford	5,211
Dartmouth	4,417
Totness	4,240
Teignmouth	4,459
South Molton	4,274
Ottery St. Mary	4,194
Honiton	3,895
Ashburton	3,841
Sidmouth	3,309
Topsham	3,733
Ilfracombe	3,679
Collumpton P	3,934
Torrington	3,419
Crediton T	2,245
——— P	5,947
Axminster	2,139

Hartland	2,223
Colyton P	2,451
Chudleigh	2,415
Oakhampton P	2,194
Modbury	2,048
Bampton	2,049
Moreton Hampstead	2,037
Holsworthy	1,857
Hatherleigh P	1,882
Bradninch P	1,714
Kingsbridge	1,564
Chumleigh P	1,647
Brent	1,287
Combe Martin	1,399
Plympton Earle	933
Beer Alston	
Brixham	5,684
Exmouth	4,356
Torquay	4,085
Budleigh	2,319
Dawlish	3,132
Paignton	2,501
Appledore	2,174
Axmouth and Seaton	1,400
Newton Abbot	1,192

21.—Cornwall.

Truro	9,901
Camborne P	10,061
St. Austell P	10,320
Redruth	9,305
Falmouth and Penryn	7,335
Penzance and Madron	11,144
St. Agnes	7,757
Launceston	6,070
St. Ives	5,666
Bodmin	4,205
Helston	3,584
Liskeard	3,001
St. Columb Major P	3,147
St. German's P	2,843
Padstow	2,145
Fowey	1,643
Saltash	1,541
Stratton P	1,959
Callington	1,658
Marazion	1,683
Tregony	995
East and West Looe	1,542
Lostwithiel	1,186
Camelford P	1,541
St. Mawes	941
Grampound	607
Calstock P	2,553
Mevagissey	2,310

Scilly Islands.

St. Mary	1,515
Trescoe	430
St. Agnes	213
St. Martin	214
Bryher	121
Sampson	29

22.—Monmouthshire.

Newport	10,815
Monmouth	5,446
Abergavenny	2,720
Chepstow	3,330
Usk	2,182
Caerleon	1,174
Aberystwith	11,272
Pontypool and Trevethan	14,942
Bedwelty P	22,413

23.—Herefordshire.

Hereford	10,921
Ledbury	4,549
Leominster	3,892
Ross	2,523
Kington	2,091
Bromyard	1,217
Pembridge	1,306
Weobly	548

24.—Worcestershire.

Worcester	26,306
Dudley P and B	31,232
Kidderminster P	20,753
——— T and B	14,399
Stourport	3,112
Bromsgrove P	9,671
Halesowen P	17,376
Stourbridge T	7,481
Evesham B	4,245
Bewdley B	3,400
Droitwich B	2,832
Upton P	2,696
Pershore T	2,813
Tenbury P	1,849
——— T	1,177
Shipston-on-Stour P and T	1,846
Cradley	2,686
Old Swinford P	17,597
Kings Norton P	5,550
Redditch T	3,314
Great Malvern	2,768

25.—Warwickshire and Coventry.

Birmingham B	182,922
Coventry	30,743
Warwick and Leamington	21,639
Nuneaton P	7,105
——— T	4,624
Sutton Coldfield P	4,300
Rugby P and T	4,008
Stratford-upon-Avon T	3,371
Atherstone T	3,743
Kenilworth P	3,149
Alcester P	2,399
Coleshill P	2,172
Southam P and T	1,670
Henley-in-Arden	1,223
Kington or Kineton T	966
Foleshill T and P	7,063
Bedworth P	4,253
Dunchurch P	1,390

26.—Northamptonshire.

Northampton T	21,242
Peterborough	6,107
Wellingborough P	5,061

Kettering P and T	4,867
Daventry P	4,177
Towcester P and T	2,749
Oundle P	2,865
Brackley B	2,057
Rothwell P	2,809
Thrapston P	1,131
Higham Ferrers P	1,030
Rockingham P	291
Weedon Beck T and P	2,195

27.—LEICESTERSHIRE.

Leicester T	50,365
Loughborough P	10,025
Hinckley P and T	6,356
Ashby de la Zouch P	5,208
Melton Mowbray P	3,740
Market Harborough T	2,433
Lutterworth P and T	2,531
Kegworth P and T	1,880
Mount Sorrel T	1,536
Bosworth P	2,539
——— T	1,135
Waltham-on-the-Wolds P	768
Hallaton P	637
Castle Donnington P	3,508
Wigston P and T	2,180
Barrow-upon-Soar T	1,841
Sileby P and T	1,473
Belgrave T	1,193

28.—RUTLANDSHIRE.

Oakham P	2,726
——— T	1,902
Uppingham P and T	2,024

29.—LINCOLNSHIRE.

LINDSEY:—

Lincoln	16,172
Louth P and T	8,848
Gainsborough T	6,948
Horncastle P and T	4,521
Gainsborough P and T	3,700
Barton-upon-Humber	3,475
Wainfleet T	2,107
Caistor T	2,033
Market Rasen T	2,022
Crowle P	2,095
Alford P and T	1,915
Epworth P and T	1,843
Kirton T	1,830
Brigg or Glamford Brigg	1,822
Friskney P	1,607
Spilsby P and T	1,444
Burgh-on-Marsh P	1,095
Bolingbroke P and T	919
Wragby P	610
Tattershall P	607
New Bolingbroke T	349
Saltfleet	300

KESTEVEN:—

Grantham	8,786
Stamford	6,385
New Sleaford P and T	3,184
Bourne P	3,026
Market Deeping P and T	1,219
Corby P	714

HOLLAND:—

Boston B	14,618
Spalding P	7,721
Holbeach P	4,637
Long Sutton or Sutton St. Mary P	3,736
Crowland P	2,973
Donington P	1,864
Swineshead P	1,866
Sutton Bridge	1,000

30.—NOTTINGHAMSHIRE AND NOTTINGHAM.

Nottingham and Radford T	75,454
Newark B	10,220
Mansfield P	9,388
Retford T	5,260
Worksop P	6,197
Southwell P	3,385
Bingham P and T	1,989
Tuxford P	1,079
Ollerton P	777
Blyth P	758
Basford T	7,835
Arnold P	4,509
Bulwell P and T	3,157
Sutton-in-Ashfield P	5,670
Beeston T	2,705

31.—DERBYSHIRE.

Derby	36,395
Chesterfield	11,231
Belper	9,385
Wirksworth P	7,891
——— T	4,122
Ashborne P	4,936
——— T	2,158
Dronfield P	4,583
——— T	1,986
Alfreton P	7,577
——— T	1,774
Chapel-en-le-Frith P	3,199
Tideswell P	1,777
Bakewell P	10,363
——— T	1,976
Buxton T	1,569
Bolsover P	1,421
Winster	1,005
Glossop P	22,898
——— T	3,548
Whitfield T	3,044
Crich P	3,698
Matlock P and T	3,782
Heanor	3,058
Duffield T	3,108
Ripley T	2,515
Ilkeston P	5,326
Melbourne P	2,583
Eckington T	1,169
Staveley P	2,688

32.—STAFFORDSHIRE.

Potteries	62,433
Stoke-on-Trent P	46,342
Longton T	10,393
Shelton T	11,955

Hanley T	8,609
Burslem T	12,631
Wolverhampton P	70,370
——— T	36,382
West Bromwich P and T	26,121
Bilston T	20,181
Wednesbury P and T	11,625
Stafford	10,730
Newcastle-under-Lyme	10,038
Lichfield	6,761
Walsall P	20,852
——— T	7,395
Leek P	11,738
—— T	7,233
Burton-on-Trent P	8,136
——— T	6,056
Tamworth P	7,746
——— T	3,789
Fazeley	1,120
Stone P	8,349
—— T	2,923
Cheadle P	4,399
Eccleshall P	4,730
——— T	1,439
Uttoxeter P	4,735
Brewood P	2,991
Rugeley P	3,774
Penkridge P	2,488
Abbots Bromley P	1,508
Tutbury P	1,835
Longnor T	485
Tipton T and P	18,891
Sedgeley P	24,819
King Swinford P	22,221
Rowley Regis P	11,111
Willenhall T	8,695
Darlaston P and T	8,244
Tunstall T	6,978
Handsworth and Soho	5,205
Smethwick	5,020
Wednesfield	3,168
Alrewas	1,173

33.—Shropshire.

Shrewsbury	18,285
Wellington P	11,099
——— T	6,084
Madely P and T	7,368
Bridgenorth	6,198
Ludlow P and T	5,064
Oswestry P	8,843
——— T	4,566
Broseley P and T	4,829
Whitchurch P	6,373
——— T	3,403
Market Drayton P	4,680
——— T	3,161
Newport P and T	2,497
Ellesmere P	7,080
——— T	2,326
Shiffnall P	5,244
——— T	1,872
Wem P	4,119
—— T	1,932
Much Wenlock P	2,487
——— T	1,627
Bishop's Castle P	1,781
——— T	1,510
Cleobury Mortimer P	1,730
Church Streeton P	1,604
——— T	860
Oldbury T	6,572
Dawley T	4,485
Halesowen T	2,056

34.—Cheshire.

Stockport T	28,431
Macclesfield T	24,137
Chester	23,115
Congleton T	9,222
Nantwich T	5,489
Sandbach P	9,299
——— T	4,587
Knutsford P	4,006
——— T	3,410
Frodsham P	5,281
——— T	1,806
Middlewich P	4,755
——— T	1,242
Tarporley P	2,546
——— T	1,114
Malpas P	5,726
——— T	1,022
Altrincham T	3,399
Great Neston T	1,701
Northwich T	1,368
Runcorn T	6,951
Over T	2,816
Leftwich T	2,001
Cheadle P	10,145
Mottram P	21,215
Newton T	7,501
Stayley T	3,905
Mottram T	3,247
Hollingworth T	2,012
Prestbury P	52,078
Macclesfield T	24,137
Higher Sutton T	7,035
Bollington T	4,350
Hurdsfield T	3,551
Stockport P	84,282
——— T	28,431
Dukinfield T	22,394
Hyde T	10,170
Werneth T	3,904
Marple T	3,462
Great Budworth P	17,103
Witton T	3,338

35.—Lancashire.

Manchester	242,983
Salford	53,200
Total Manchester	296,183
Liverpool	286,487
Birkenhead, &c.	17,038
Total Liverpool	303,525
Preston T	50,131
Bolton P	73,905
—— T	49,763
Oldham T	42,595

Oldham B	60,109
Blackburn T	36,629
Wigan T	25,517
Rochdale B	24,097
Ashton-under-Lyne T	22,678
Bury T	20,710
—— B	24,759
Warrington T	18,981
—— B	21,116
Colne T	14,966
Lancaster	14,389
Chorley P and T	12,135
Burnley T	10,699
Haslingden T	8,063
Clitheroe B	11,324
—— T	6,818
Middleton T	7,740
Ulverstone T	5,352
Prescot T	5,451
St. Helen's T	5,051
Ormskirk T	4,891
Leigh T	3,005
—— P	22,229
Kirkham T	2,903
Newton-in-Mackerfield T	3,126
Poulton T	1,128
Dalton T	1,005
Garstang T	909
Hawkeshead T	892
Cartmel T	356
—— P	4,927
Leyland T	3,569
Southport T	3,346
Wavertree T	2,669
Fleetwood-on-Wyre T	2,833
Lytham P and T	2,082
Ribchester T	1,727
Whalley P	111,741
Colne T	14,960
Burnley T	10,699
Accrington T	8,719
Habergham T	8,684
Haslingden T	8,063
Clitheroe T	6,818
Oswaldtwistle T	6,655
Blackburn P	71,711
—— T	36,629
Darwen T	12,425
Walton-le-Dale T	6,765
Ashton-under-Lyne P	46,304
Stayleybridge T	5,747
Bury P	62,125
Heap T	14,856
Deane P	26,217
Farnworth T	4,829
Hulton T	3,052
Horwich T	3,773
Eccles P	33,792
Pendleton T	11,032
Barton-upon-Irwell T	10,865
Worsley T	8,337
Manchester P	353,390
Heaton Norris T	14,629
Prestwich-cum-Oldham P	78,545
Pilkington T	11,186
Crompton T	6,729
Chadderton T	5,397
Royton T	5,730
Radcliffe P	5,099
Rochdale P	84,718
Todmorden T	7,311
Prescot P	35,902
Eccleston T	6,247
Windle T	6,918
Parr T	3,310
Wigan P	51,988
Hindley T	5,459
Pemberton T	4,394

36.—Yorkshire—West Riding.

Leeds P and B	152,054
—— T	162,056
Sheffield P B and T	111,091
Bradford P	105,257
—— T	34,560
—— B	66,508
York	30,152
Huddersfield P	38,454
—— T	25,068
Halifax P	130,743
—— T	19,881
—— B	26,694
Wakefield B	18,486
—— P	29,992
—— T	14,754
Saddleworth	16,829
Doncaster T	10,455
Barnsley T	12,310
Dewsbury P	23,806
—— T	10,600
Orsett T	5,857
Keighley T	9,255
Ripon P	15,024
—— T	5,461
Rotherham T	5,505
Selby P and T	5,376
Knaresborough T	4,678
Bingley	10,157
Pontefract P	9,851
—— B	10,688
—— T	4,669
Skipton T	4,842
Otley T	3,445
Thorne P	3,507
Harrogate and Bilton	3,372
Tadcaster T	1,826
Sherburn T	1,328
Boroughbridge and Aldborough T	1,639
Sedberg	2,268
Tickhill	1,981
Dent	1,387
Settle	2,041
Bawtry T	1,083
Ripley T	283
Cawood	1,108
Aberford T	782
Kettlewell	
Ecclesfield	8,832
Batley T	7,073
Almondbury P	37,315
—— T	8,828
Birstall P	29,723
Gomersall T	8,030

Cleckheaton T	4,299
Liversedge T	5,988
Idle T	6,212
Kimberworth T	5,066
Mirfield T and P	6,919
Morley T	4,087
Rothwell T	2,938
Baildon T	3,280
Goole T	2,850
Ackworth P and T	1,829
Guiseley T	1,971

North Riding :—

Scarborough B	10,060
Whitby B	9,862
Malton B	6,875
Richmond P, B, and T	3,992
Northallerton T	3,092
Thirsk T	3,030
Pickering T	2,292
Stokesley T	2,310
Kirkby Moorside	1,905
Guisborough	1,776
Yarm P and T	1,511
Masham	1,318
Helmsley	1,465
Bedale T	1,250
Easingwold	2,171
Hawes	1,611
Reeth	1,349
Muker	1,241
Leyburn	829
Egton	1,128
Middleham	930
Askrigg	
Middlesborough T	5,566
Redcar T	794

East Riding :—

Hull	67,848
Beverley	8,671
Bridlington T	3,310
Great Driffield T	3,223
Howden T	2,332
Pocklington T	2,323
Market Weighton	1,947
Patrington P	1,402
South Cave	1,288
Hunmanby P	1,214
Heydon or Hedon P and T	998
Flamborough P	1,191
Hornsea P	1,005
Bridlington Quay T	1,852
Filey	1,590
Cottingham	2,618

37.—Westmoreland.

Kendal T	10,225
——— P	18,027
——— B	11,519
Kirkby Stephen T	1,345
——————— P	2,850
Appleby T	1,369
Kirkby Lonsdale T	1,629
Milnthorpe T	1,159
Brough	899
Ambleside	1,281
Orton T	558
——— P	1,449
Shap	898

38.—Cumberland.

Carlisle	23,012
Whitehaven	15,401
Workington T	6,120
——————— P	6,994
Penrith T	6,145
Wigton T	4,738
Cockermouth T	4,940
Brampton T	2,754
Keswick	2,442
Longtown T	1,990
Egremont T and P	1,750
Alston P	6,062
——— T	1,650
Kirk Oswald	691
Hesket Newmarket	
Ravenglass	337
Ireby P	472
Maryport	5,311
Harrington P and T	1,934
Dalston T	1,024
St. Bees T	557
Millom	922

39.—Durham.

Sunderland and Wearmouth	53,335
Durham	14,151
Darlington T	11,033
Stockton-on-Tees T	9,825
Hartlepool T	5,236
Barnard Castle T	4,452
Chester-le-Street T	2,599
Wolsingham P	2,086
Sedgefield P	2,105
Stanhope P	7,063
Staindrop P	2,436
——————— T	1,399
Auckland P	19,100
Bishop Auckland T	3,776
West Auckland T	3,030
Winlaton T	5,006
Bedlington T	2,023
Jarrow T	3,360
Dawdon	2,017
Seaham T	153
Houghton-le-Spring T	3,433
Haswell T	3,981
Kellow and Coxhoe P	11,223

40.—Northumberland and Newcastle.

Newcastle and Gateshead	89,842
North and South Shields and Tynemouth	50,321
Berwick-upon-Tweed and Tweedmouth	13,686
Morpeth B	7,160
Alnwick T	4,945
Hexham T	4,742
Wooler T	1,669
Allendale T	1,217
Haltwhistle T	984
Belford T	1,157
Rothbury T	881

Bellingham T	672
South Blythe T	1,868
Seaton Sluice T	769

41.—Glamorganshire.

Swansea T	16,787
——— B	22,982
Cardiff P and T	10,077
Merthyr Tydfil P	34,977
——— B	42,917
Neath B and P	4,970
Cowbridge P, T, and B	1,080
Clase	5,924
Aberdare T	1,322
Cwmdare T	2,404
Llemtrisaint P	3,222
——— B	855
Aberavon P	1,290
——— B	3,665
Loughor P	854
——— B	573
Oystermouth P	1,482
Kenfig B	462

42.—Brecknockshire.

Brecon	5,701
Hay T	1,455
Builth P	1,148
Crickhowell P	1,257
Talgarth T	673

43.—Caermarthenshire.

Caermarthen B	9,526
Llanelly B	6,846
Pembrey P	2,850
Llandovery B	1,709
Llandilofawr T	1,313
Laugharne T	1,389
Kidwelly	1,297
Newcastle Emlyn T	1,049

44.—Pembrokeshire.

Pembroke B	7,412
Haverfordwest T	5,491
Milford T and B	2,377
Tenby T and B	2,512
Narberth B	1,236
Newport P	1,751
Fishguard B	1,497
Wiston B	775

45.—Cardiganshire.

Aberystwith B	4,975
Cardigan B	3,800
Adpar B	1,619
Lampeter B	902
Tregaron T	692
Aberayron T	53[illegible]

46.—Radnorshire.

New Radnor B	2,478
——— T	478
Presteign B	1,550
Knighton B	1,237
Rhayader B	912
Knucklas B	270
Cefn Llys B	26

47.—Montgomeryshire.

Newtown B	6,535
Welshpool B	4,670
——— T	2,499
Llanidloes B	2,742
Machynlleth B and T	1,672
Montgomery P and B	1,208
Llanfyllin B	1,106

48.—Merionethshire.

Dolgelly T	2,016
Bala T	1,257
Festiniog P	3,138
Corwen	830

49.—Carnarvonshire.

Carnarvon B	8,001
Bangor B	5,058
Pwlheli B	2,601
Conway B	1,828
Nevin B and P	1,656
——— T	963
Criccieth B	604
Tremadoc and Ynys-cynhaiarn P	1,888
Hirael T	1,140

50.—Anglesea.

Amlwch B	3,373
Beaumaris B	2,680
Holyhead P	3,869
Llangefni B	1,348
Llanerchymedd T	1,243

51.—Denbighshire.

Denbigh B	5,228
Wrexham B	5,831
——— P	12,921
Ruthin B	3,271
Holt B and T	1,058
Ruabon P	11,292
Chirk T	475
Llangollen P	4,906

52.—Flintshire.

Holywell B	5,864
Mold B and T	3,557
Flint B	3,265
Rhuddlan B	2,782
St. Asaph B	1,701
Overton B and P	1,662
Caergwyle B	755
Caerwys B	690
Hawarden T	905

The rate of increase of the population deduced from the foregoing tables is shown in the next table, from which it appears the per centage is less in the ten years ending 1841 (14½ per cent.) than in the two foregoing ten-yearly times ending 1821 and 1831, but as much as in the ten years ending 1811. It is, however, to be noted that the actual increase of the population has not fallen off, as the following calcula-

tion of the numbers added to the population in each ten years will show :—

Years.		England.	Wales.	Scotland.
1811	.	1,207,393	70,242	206,620
1821	.	1,722,610	105,650	287,768
1831	.	1,829,568	89,744	272,658
1841	.	1,904,133	105,421	265,070

It is to be noticed, however, that the army, navy, and seamen afloat, which were 640,500 in 1811, were only 188,453 in 1841; but then emigration has largely increased, and also the English population dwelling or travelling abroad; which latter, for all social and political purposes, ought to be reckoned with the home population, and which sometimes includes a hundred thousand persons, mostly grown up.

The number of emigrants from the ports of England and Wales, in the ten years ending 1841, was 429,775, including great numbers of Irish, but not including many of the better class of English. The whole number from the United Kingdom between 1825 and 1850 was 2,250,000, of whom 2,000,000 to the United States and North America. About half of these were Irish.

To make the table more useful, it gives the increase per cent. not only of England, Wales, and Scotland, but likewise the great shires, Middlesex, Yorkshire, and Lancashire.

	1801.	Increase per cent.	1811.	Increase per cent.	1821.	Increase per cent.	1831.	Increase per cent.	1841.
England .	8,331,434	14½	9,538,827	17½	11,261,437	16.0	13,091,005	14.5	14,995,138
Wales .	541,546	13	611,788	17	717,438	12.0	806,182	13.0	911,603
Scotland .	1,599,068	14	1,805,688	16	2,093,456	13.0	2,365,114	10.7	2,620,184
Army, navy, &c.* .	470,598	...	640,500	...	319,300	...	277,017	...	‡ 193,469
Man, Jersey, &c. .	...	...	...	...	89,508	15.8	103,710	19.6	124,040
Total .	10,942,646	15.1	12,596,803	14.2†	14,481,139	14.9	16,643,028	13.2	18,844,434
Middlesex	818,189	17.0	953,276	20.0	1,144,531	19.0	1,358,330	16.0	1,576,636
Yorkshire	858, 92	15.1	986,174	18.9	1,173,187	16.9	1,371,359	16.0	1,591,480
Lancashire	672,731	23.0	828,309	27.0	1,052,859	27.0	1,336,854	24.7	1,667,054

* Army, navy, and registered seamen, &c., afloat.
† In this computation the population of the Channel Islands has been omitted.
‡ Includes 5016 persons travelling on the night of 6th June, 1841.

The rate of increase is lowest in the agricultural districts, being, for 1841, in Bucks 6.4, Devon 7.8, Dorset 9.9, Essex 8.6, Hereford 2.4, Hertford 9.6, Norfolk 5.7, Oxford 6.2, Shropshire 7, Somerset 7.8, Suffolk 6.3, Westmoreland 2.5, Wilts 7.7, North Riding 7.

The fen counties show a higher rate of increase, which illustrates the great agricultural improvements which have there taken place: Lincoln 14.2, Bedford 13.8, Cambridge 14.2, Huntingdon, 10.

The population in 1801 and 1841 of these shires was as follows :—

	1801.	1841.
Lincoln	208,557	362,602
Cambridge	89,346	164,459
Bedford	63,393	107,936
Huntingdon . . .	37,568	58,549
Altogether	398,864	698,546

The coal-mining counties show a large increase: Durham 27.7 per cent., Northumberland 12.2, Stafford 24.3 ; so do the iron-mining shires, indeed the greatest percentage, Monmouth 36.9, Caernarvon 22, and Glamorgan 35.2.

The next point of interest under the head of Increase of Population, is that of the towns shown in the following table, which in the latter column includes the whole suburban population. In 1841 we had more towns over 100,000 than in 1801 over 50,000 ; and now we have London with upwards of 2,000,000, and Manchester, Liverpool, and Birmingham with a great increase.

The periods given are 1801, 1821, and 1841. Manchester includes Salford ; Liverpool, Birkenhead ; Bristol, Clifton ; Newcastle, Gateshead ; Plymouth, Devonport ; Portsmouth, Gosport ; and Sunderland, Wearmouth.

	1801.	1821.	1841.
London . .	864,845	1,225,694	1,873,676
Manchester .	99,399	154,807	293,183
Liverpool .	79,722	131,801	303,525
Birmingham	73,670	106,722	182,922
Leeds . .	53,162	83,796	162,056
Bristol . .	63,645	87,779	140,158
Sheffield . .	31,314	42,157	111,091
Newcastle .	28,366	35,181	89,842
Plymouth .	43,194	61,212	80,009
Nottingham .	28,861	40,415	75,454
Hull . . .	22,161	28,591	67,848
Portsmouth .	33,226	45,648	66,542
Norwich . .	36,832	50,288	62,344
Sunderland .	...	...	53,335
Bath . . .	27,686	36,811	52,346
Leicester .	16,953	30,125	50,365
Shields . .	...	...	50,321
Preston . .	11,887	24,575	50,131
Brighton .	7,339	24,429	49,924
Bolton . .	17,416	31,295	49,763
Oldham . .	12,024	21,662	42,595
Rochester, &c.	17,322	24,063	41,422
Exeter . .	17,398	23,479	40,965
Blackburn .	11,980	21,940	36,629
Derby . .	10,832	17,423	36,395
Wolverhampton . .	12,565	18,380	36,382
Bradford .	6,393	13,064	34,560
Rochdale P	29,092	47,109	67,889
Stoke-upon-Trent P .	16,414	29,223	46,342
Ashton-under-Lyne P .	15,632	25,967	45,304
Merthyr Tydfil P . .	7,705	17,404	34,977

The town population has increased very much by the absorption of neighbouring towns and villages, which the great towns have reached and embraced.

While there has been an increase in the numbers of the population, so has there been in the accommodation for them, and the number of houses in proportion to the population has increased since 1831, so that there is now one house for each 5.4 persons in England.

	Inhabited houses for each 100 persons.		Persons for each inhabited house.	
	1831.	1841.	1831.	1841.
England and Wales	17.8	18.5	5.6	5.4
Metropolis . . .	13.3	13.1	7.4	7.5
Middlesex . . .	13.2	13.1	7.5	7.6
Yorkshire . . .	19.5	19.8	5.1	5.0
Leeds	20.6	20.7	4.8	4.8
Lancashire . . .	17.0	17.3	5.8	5.7
Manchester . . .	16.5	17.3	6.0	5.7
Liverpool	15.5	14.3	6.4	6.9

The whole number of inhabited houses at the several periods, besides those uninhabited and building, is as follows:

	Inhabited houses. England and Wales.	Metropolis.
1801 . . .	1,575,923	......
1811 . . .	1,797,504	......
1821 . . .	2,088,156	......
1831 . . .	2,481,544	196,666
1841 . . .	2,943,939	250,908

In 1847 the number of houses in England and Wales, having above 7 windows, was 444,731; of these 77,000 with above 20 windows.

The proportion of males to females in England is 100 to 104.8, in Wales 100 to 103.6. In Hereford the proportion is 100 to 99.9, Monmouth 100 to 90.3, Stafford 100 to 97.2, Glamorgan 100 to 94.8, Dorset 100 to 109.9, Middlesex 100 to 113.4, Pembroke 100 to 118.7.

The proportion of males under 20 is 47.05, above 20 52.95, and of females under 20 45.02, above 20 54.98.

The proportion of the whole population of males between 20 and 40 is 30, and of females 31.34, and of those of both sexes above 50 is 13.65.

England and Wales.	1821.	1831.	1841.
Males above 20	2,563,926	3,394,690	4,071,876
Males under 20	2,598,636	3,376,500	3,638,610
Total .	5,162,562	3,771,190	7,710,486
Females above 20	2,817,538	......	4,463,759
Females under 20	2,562,081	......	3,661,302
Total .	5,379,619		8,125,061

The number of persons of several ages is shown below in periods of five years, the first line including those under 5 years of age, the second those between 5 and 10, and so forth:

England.	Males.	Females.	Total.
5 years	981,722	995,855	1,977,577
10 „	891,985	894,908	1,786,893
15 „	823,918	800,487	1,624,405
20 „	726,211	757,487	1,483,698
25 „	668,300	782,834	1,451,134
30 „	569,668	635,750	1,205,418
35 „	527,597	570,042	1,097,639
40 „	406,172	424,841	831,013
45 „	409,977	428,604	838,581
50 „	293,951	305,724	599,675
55 „	288,080	307,539	595,619
60 „	176,451	188,408	364,859
65 „	195,223	215,099	410,322
70 „	112,303	129,185	241,488
75 „	97,220	111,945	209,165
80 „	51,540	59,301	110,841
85 „	28,495	35,564	64,059

England.	Males.	Females.	Total.
90 years.	9,180	12,462	21,642
95 "	2,236	5,575	7,811
100 "	442	799	1,241
Above 100	72	141	213
Unspecified	33,876	11,201	44,077
	7,294,619	7,671,751	14,966,370

Information very important in determining the natural increase of the population, and how far the English population is deteriorated by admixture, is afforded by the returns of the birthplace of the persons enumerated in the population returns. These are, however, still incomplete, because no distinction is made between those born out of the shire, whether in England or Wales (being returned as "born out of the shire in England or Wales"), and thereby not only are the Welsh Celts mixed up in the returns as Englishmen, but the Irish Celts return themselves as Welsh, which is a very common practice. Thus the number of Irish-born living in England is returned as 284,128 in 1841, an enormous number, but far below the real amount of that people at that date, from the cause already assigned, while it does not show (as the returns ought to show) the number of persons of Irish origin born in England, which is large, for though the native population mix very little with the Irish, yet, as shown by the returns, these latter bring over their women in large numbers. It is further to be noted that many of the English-born enumerated in Ireland are the offspring of the Irish born during such emigration, and that as many of the Irish visitors to England go back to Ireland or proceed to America from Liverpool, so the Celtic population here does not so fully increase as might be expected. There are no returns upon the subject, but it is evident the Welsh Celts settled in England are diminishing, being supplanted by the Irish, and having a field opened to them at home in the South Wales iron districts.

There are, nevertheless, only twelve shires in England in which the Irish-born population is more than 1 per cent.

	England.	Wales.
Number of natives born in county of residence	12,091,394	754,398
Born in other counties	2,360,556	126,328
" Scotland . .	102,065	1,173
Number of Irish . .	284,128	5,276
" " males .	148,151	3,080
" " females	135,977	2,196
" other foreigners	38,628	616

The chief seats of the Irish population are shown below. The Scotch Lowlanders settle largely in the northern shires.

	English born in place.	English born elsewhere.	Irish.
Lancashire * .	1,323,424	203,508	105,916
Middlesex † .	967,164	490,513	58,068
Yorkshire . .	1,462,966	94,153	18,561
Surrey ‡ . .	329,473	224,590	13,422
Cheshire . .	300,170	79,012	11,577
Kent . . .	427,237	97,537	10,401
Warwick . .	307,977	82,418	6,333
Durham . .	244,731	65,216	5,407
Northumberland §	200,426	30,715	5,218

In most of the English shires, from 80 to 90 per cent. are born within the shire, the average being 80.7, and a further portion born in England and Wales, the average being 15.9. The latter percentage shows the immigration of English to the chief seats of employment, and stands thus :—Surrey, 38.5 ; Monmouth, 33.9 ; Middlesex, 31.1 ; Warwick, Durham, Berks, Cheshire, Hertford, and Worcester, being about 20 per cent. Of these English immigrants, being 2,370,556 in number, there are in Middlesex, 490,513 ; Surrey, 224,590 ; Lancashire, 203,508 ; Kent, 97,537 ; and Yorkshire, 94,158, being more than half.

A system of general registration for England and Wales has now been in operation since 1837, and it gives information yearly as to the births, deaths, marriages, and health of the population.

The number of births (or rather of those born alive) registered yearly in England and Wales stands thus :—1838, 463,787 ; 1839, 492,574 ; 1840, 502,303 ; 1841, 512,158 ; 1842, 517,739 ; 1843, 527,325 ; 1844, 540,763 ; 1845, 543,521 ; 1846, 576,625 ; 1847, 539,965.

Of those born in 1846, 293,146 were males, and 279,479 females ; 38,529 illegitimate, whereof 19,735 were males, and 18,794 females. The number of births was 566,920, whereof 5642 of twins, 30 of triplets, 1 of four children.

The marriages were, in 1838, 118,067 ; 1839, 123,166 ; 1840, 122,665 ; 1841, 122,496 ; 1842, 118,825 ; 1843, 123,818 ; 1844, 132,249 ; 1845, 143,743 ; 1846, 145,664 ; 1847, 135,845.

The Registration Act provides a complete civil registration of births, deaths, and marriages, but allows full scope for the performance of religious rites. Of

* Scotch, 21,747 ; foreigners, 4,237.
† Scotch, 20,921 ; foreigners, 17,610.
‡ Scotch, 4,642 ; foreigners, 2,321.
§ Scotch, 11,919.

the marriages in 1846, 130,509 were according to the rites of the Established Church; 3027, Roman Catholic; 7659, Dissenters; 68, Quaker; 224, Jewish; 4167, by civil rite in the superintendent registrar's office.

These returns afford some clue to the religious persuasions of the population, but not wholly, as mixed marriages take place mostly according to the rites of the English Church, and many kinds of dissenters are habitually married by those rites. There are eleven registration divisions. In the North Western, Roman Catholic marriages are 6.4 per cent; in Wales, the marriages according to the Established Church are 77 per cent., the others 23 per cent.

Of those married, namely, 291,328, 260,857 (127,321 males, 133,536 females) had not been married before, and 30,471 had been married before (18,343 males, 12,128 females); 26,314 were under age (6313 males, 20,001 females).

The deaths, exclusive of still-born, registered, were—1838, 342,760; 1839. 338,981; 1840, 359,687; 1841, 343,847 1842, 349,519; 1843, 346,445; 1844. 356,933; 1845, 349,366; 1846, 390,315 1847, 423,304. Of the deaths in 1847 214,375 were males, and 208,929 females.

The total births registered in ten years, from 1838 to 1847, were 5,216,760, and of deaths, 3,601,157; showing an increase of population by births of 1,615,603, or 161,560 yearly. Of the total deaths, one-fifth were under one year old, and nearly 40 per cent. were under five years old.

The number of deaths in proportion to the population, in 1841, was 1 in 46.26 (males, 44.61, females, 47.95); the number of births was one in 31; and of marriages 1 in 129; and of those married 1 in 64. These numbers are likewise the mean of ten years.

The legacy duties afford some materials for illustrating the vitality of part of the population, and it appears from them that only half of the wealthy classes leave direct descendants. In 1845, duty was paid on 45,599,714*l.*; 24,087,849*l.* to children and descendants, 14,599,336*l.* to brothers and their descendants, 4,606,926*l.* to strangers in blood.

The number of lunatics and idiots cannot be well known; but a return in 1844 shows 8973 lunatics and 8382 idiots chargeable to parishes in England and Wales; 4072 lunatics in private asylums. The number of lunatics cannot, therefore, be less than 13,000, and the number of idiots the same, being a total of 26,000 persons of unsound mind

The number of lunatics admitted to asylums in 1848 was 6052. In 1841, 11,218 were described as lunatics or idiots, and of 5381 of these the occupation was described—864 were servants, 418 agricultural labourers, 226 weavers, 232 soldiers, 206 seamen, 181 farmers, 160 shoemakers, 113 milliners, 113 teachers, 129 clerks, 106 tailors, and 101 carpenters.

One great purpose of the population returns is to show the occupations of the people, but this hitherto has been very imperfectly done.

The proportions given for several periods are as follows:—

	Agricultural.	Commercial.	Miscellaneous.
1811 . .	35	44	21
1821 . .	33	46	21
1831 . .	28	42	30
1841 . .	22	46	32

In the last period the enumeration is by individuals, in the others by families.

The following shows the occupations of the males in England, of 20 years old and upwards, in 1831 and 1841:—

	1831.	1841.
Males above 20 . .	3,199,984	3,829,668
Agriculture * . . .	980,750	961,585
Trade and manufactures	1,278,283	1,682,044
Capitalists, professional and educated men	179,383	240,718
Labourers, not agricultural, fishermen, and watermen . .	500,960	483,918
Male servants . .	70,629	144,201

The other males, in 1841, were 317,202, of whom 16,049 were government civil servants, 22,942 parish, police, and law officers, 73,539 almsmen, pensioners, paupers, lunatics, and prisoners.

In the agricultural shires, the proportion of the whole population engaged in agriculture is from 10 to 16 per cent.—Lincoln, 15.9; Wilts, 14.1; Essex. 14.8; Hereford, 14.6; Hants, 14.5; Wilts, 14.1. In Middlesex it is 1.4; Durham, Surrey, and West Riding, 4.4; Lancashire, 6.7.

The proportion per cent. of the whole population engaged in trade and manufactures is—in Lancashire, 28.1; West Riding, 24.6; Cheshire, 23.5; Warwick, 21.9; Nottingham, 20.6; Middlesex, 20.0 In the agricultural shires it is 9 or 10 per cent.

* There is reason to suppose that, in 1841, many farm servants were returned as male servants.

The number of persons, of all ages and both sexes, engaged in England in various pursuits, in 1841, was as follows:—

Agricultural labour	889,922
Servants*	914,707
Labourers, not agricultural	318,690
Seamen, watermen, and fishermen†	288,630
Cotton manufacture	213,565
Farmers	212,455
Boot and shoemaking	176,445
Mining	146,777
Carpentering	138,193
Tailoring	102,251
Dressmaking	89,588
Woollen manufacture	86,779
Weaving	85,302
Blacksmiths	75,965
Publichouse keeping‡	56,414
Masonry	56,426
Schooling	50,406
Clerks	47,891
Gardening	44,287
Butchers	43,583
Painting and Plumbing	43,046
Grocers§	40,337
Bricklaying	39,085
Baking	36,022

The number of persons returned as of independent means was 421,995 (females, 303,583).

The number of persons engaged in trade and manufactures in Lancashire, is 467,784 (besides 76,079 labourers); Middlesex, 315,259 (besides 82,240 labourers); Yorkshire, 340,362 (besides 51,743 labourers).

The number of professional persons *returned* is 50,344 (Middlesex and Surrey, 12,775), namely—clerical, 18,840; legal, 13,759 (Middlesex, 4801); medical, 17,745 (Middlesex, 4298, Lancashire, 1454); besides actors, 1341; architects, 1458; artists, 5445; engineers, 828; musicians, 3448; teachers, 50,380; surveyors, 3838; authors and editors, 615; making the whole number of professional persons 117,697.

Of the domestic servants, 200,935 are in Middlesex and Surrey, 72,597 in Yorkshire, 72,998 in Lancashire, 41,855 in Devon, 30,392 in Kent, 31,094 in Gloucestershire, 29,025 in Somersetshire.

Of the persons returned as "independent," 100,899 are in Middlesex and Surrey, 35,573 in Yorkshire, 33,207 in Lancashire, 20,353 in Devon, 18,629 in Kent, 16,002 in Gloucestershire, 14,907 in Somersetshire.

* Male, 202,214; female, 712,493; male charged with duty, 1847, 153,830.
† For Great Britain.
‡ Licences, 1847, 98,051.
§ Licences for grocers and tobacconists, 1847, 174,852. Ditto for grocers only, 95,300.

It is singular that the proportion of domestic servants to those in independent circumstances is, as nearly as may be, 2 to 1.

In 1841 the number of paupers in the workhouses in England and Wales, on the night of the 6th of June, was 100,529; of whom 24,129 were males above 20; 24,060 males under 20; 30,800 females above 20; 21,540 females under 20. Of 24,001 the occupations were returned, and of these 3,555 were agricultural labourers, 2407 labourers, 5401 servants, 1158 charwomen, 845 shoemakers, 712 laundresses, 647 weavers, 520 seamstresses, 450 tailors, 439 nurses, 346 seamen, 328 carpenters, 284 smiths. The number of paupers in winter is much more.

In 1841 there were in hospitals 10,448 persons; but this does not show the whole amount of severe sickness, as there must be added to it those sick at home, in madhouses, and women in childbed. There cannot be less than 50,000 persons incapacitated by sickness. In three months, in 1844, 11,458 persons received indoor relief through sickness or accident, and 158,280 outdoor relief.

The amount expended in poor relief was, in 1846, 4,011,920*l.*: 1847, 4,367,055*l.*; 1848, 6,180,765*l.*; and the yearly relief is equivalent to two million quarters of corn. The number of persons relieved in 1846 was 1,332,089; 1847, 1,721,350; 1848, 1,876,541; but the same parties are returned several times.

The number of adult able-bodied paupers relieved in the quarter ending Lady Day, 1846, was 382,417, and 1847, 562,355.

The number of emigrants yearly is not ascertained, as the Irish sail from the English harbours. The number from all the islands for 1825 were 14,891; 1826, 20,900; 1827, 28,003; 1828, 26,092; 1829, 31,198; 1830, 56,907; 1831, 83,160; 1832, 103,140; 1833, 62,527; 1834, 76,222; 1835, 44,478; 1836, 75,417; 1837, 72,034; 1838, 33,222; 1839, 62,207; 1840, 90,743; 1841, 118,592; 1842, 128,344; 1843, 57,212; 1844, 70,686; 1845, 93,501; 1846, 129,851; 1847, 258,270; 1848, 248,089.

Of these, 767,373 went to the North American colonies, 1,040,797 to the United States, 152,843 to Australia and New Zealand; but this is exclusive of those settling in Europe, of soldiers and others going to the East Indies, and of seamen settling abroad.

On the 6th June, 1841, the whole number of persons, debtors and criminals, in jails, was 22,830. The whole number committed during the year was 119,237, of whom 13,001 were debtors, and 106,236 criminals. The number of criminals for 1840 was 107,714; 1841, 106,236; 1842, 114,448; 1843, 113,871; 1844, 108,317; 1845, 99,984; 1846, 100,077; 1847, 106,353.

In 1847, of the prisoners, 28,139 were tried at assizes or sessions, 67,481 summary convictions, 1282 deserters, and 9421 re-examined and discharged.

Of the 28,139 tried at assizes and sessions, 20,821 were convicted. Of the summary convictions, 2289 were for breaking the game laws; 643, revenue laws; 672, bastardy laws; 2993, want of bail; 9844, assaults; 4338, police acts; 2527, larceny act; 3938, malicious trespass act; 19,621, vagrant act; 3366, reputed thieves.

Of the 28,139 tried, 2726 were sentenced to transportation; 14,417 had been once recommitted; 6419 twice; 3347 thrice; and 8742 more times. Five males and two females were hanged. In 1848, twelve people were hanged. In 1821, the number was 114, and in former years there had been a greater number.

The cost of the prisons in 1847 was 480,269*l.* Each prisoner costs yearly 29*l.* 14*s.* 1½*d.*, which is exclusive of police, of the expense of trying him, and his expense in transportation.

PRODUCTION AND CONSUMPTION.

Of late years, husbandry has made much progress by the extension or extended use of drainage, subsoiling, irrigation, liming, guano, chemical manures, town refuse and sewage, machinery, and efficient buildings; by the institution of the Royal Agricultural Society and shows; of the Agricultural College at Cirencester, and agricultural schools, and of colleges and schools of chemistry; no less than by the working of railways, which have supplied lime and other materials cheaper, and by carrying produce more cheaply to market, have stimulated production. One result is the extension of market gardening. At the same time, in consequence of the abolition of legislative restrictions, there has been a large importation from abroad of corn, cattle, and all kinds of produce, which steam navigation facilitates. The course of internal legislation has been to further husbandry, by the commutation of tithes, by facilitating inclosures under a general act, and by the promotion of drainage, particularly by way of loan, while the local taxation has been partially relieved.

There is a great want of agricultural statistics, and a strong feeling as to the need of supplying them. The received estimate of the proportion of cultivable land is that of Mr. William Couling, drawn up in 1827, since which time about half a million of acres have been inclosed.

The following is an estimate of the number of acres in each shire, cultivated, uncultivated, and unprofitable:—

Shires.	Cultivated.	Uncultivated.	Unprofitable.
Bedford	248,000	31,000	17,000
Berks	380,000	75,000	29,000
Bucks	440,000	5,000	28,000
Cambridge	500,000	17,000	32,000
Chester	594,000	40,000	40,000
Cornwall	550,000	190,000	110,000
Cumberland	670,000	150,000	125,000
Derby	500,000	100,000	56,000
Devon	1,200,000	300,000	150,000
Dorset	573,000	25,000	45,000
Durham	500,000	100,000	80,000
Essex	900,000	10,000	70,000
Gloucester	750,000	6,000	48,000
Hants	900,000	80,000	60,000
Hereford	495,000	24,000	30,000
Herts	310,000	8,000	20,000
Hunts	220,000	3,000	14,000
Kent	900,000	20,000	60,000
Lancaster	850,000	200,000	120,000
Leicester	480,000	5,000	30,000
Lincoln	1,465,000	180,000	143,000
Middlesex	155,000	17,000	8,000
Monmouth	270,000	30,000	18,000
Norfolk	1,180,000	78,000	80,000
Northampton	555,000	50,000	45,000
Northumberland	900,000	160,000	140,000
Notts	470,000	28,000	37,000
Oxon	403,000	50,000	28,000
Rutland	89,000	1,000	5,000
Salop	790,000	20,000	48,000
Somerset	900,000	88,000	62,000
Stafford	560,000	85,000	90,000
Suffolk	820,000	88,000	60,000
Surrey	400,000	50,000	35,000
Sussex	625,000	170,000	140,000
Warwick	510,000	30,000	37,000
Westmoreland	180,000	116,000	200,000
Wilts	500,000	200,000	180,000
Worcester	400,000	30,000	26,000
York	2,500,000	600,000	715,000

The proportions in England and Wales are estimated as follows:—

	England.	Wales.
Cultivated	25,632,000	3,117,000
Uncultivated	3,454,000	530,000
Unprofitable	3,256,400	1,105,000
Altogether	32,342,400	4,752,000

It will thus be seen that the quantity of cultivable land in England is 29,000,000 acres, which, under a proper system, is sufficient for the maintenance of at least double the present population; it is now about 2 acres per head.

The proportion in England of land under tillage and in gardens is about 10,500,000 acres (in Wales 900,000), and of meadows, pastures and marshes, 15,500,000 acres (in Wales 2,250,000).

The whole number of persons engaged in cultivating the land in England in 1841 were as follows:—

Farmers and graziers	212,455
Labourers	899,634
Gardeners, nurserymen, and florists	45,727
Altogether	1,157,816

This, however, it must be borne in mind, is only the number engaged in actual cultivation, and does not represent the whole population dependent upon agriculture for employment, which would include many of the so-called manufacturing population. It would be needful to add women servants (as dairy-women, &c.), cattle, horse and pig salesmen and drovers (6962), farm bailiffs (3853), woodcutters, &c. (5079), farriers, (5087), the makers and menders of agricultural implements and buildings, those engaged in the carting and carrying of agricultural produce, limeburners, manure makers, and land surveyors.

The number labouring the land is 900,000, or one for 25 acres, a proportion which shows a great capability for the extension of labour. The gardeners are employed on a much less acreage.

The number of horses used in husbandry is about 900,000 (in 1821, 832,726 wholly used in husbandry, 135,542 partially used).

The woodlands of England are extensive. The growth of larch for railway sleepers has thriven of late years. In 1849, the government took measures for an improved management of the New Forest.

The number of cattle of all kinds is not known. The only agricultural statistics are those taken in Ireland in 1847, being the famine year, upon which the following estimate for England is based.

Number of acres under crop	10,500,000
Two-thirds under corn crops	6,500,000
One-third under other crops	4,000,000
Quarters of corn, of all kinds, at 5 quarters per acre	32,000,000
Number of horses (1847)*	805,458
„ asses	200,000
„ cattle†	6,000,000
„ sheep†	25,000,000
„ goats	500,000
„ swine	3,000,000
„ rabbits	500,000
„ poultry	10,000,000
„ dogs‡	500,000
„ cats	3,000,000
Acres of meadow, pasture, &c.	15,500,000
Pounds of wool yearly	150,000,000
Number of horse and ox hides yearly	1,500,000
Tons of guano used yearly	200,000
„ lime „	1,500,000
„ tallow raised yearly	50,000
Cwts. of butter „	1,500,000
„ cheese „	750,000
Tons of potatoes „	750,000
Pounds of hops „	50,000,000

The importations from abroad into Great Britain for agricultural purposes are very great. In 1845 there was no less than 220,934 tons of guano. In 1847, clover seeds, 225,247 cwts.; flax and linseed, 439,512 quarters; rape-seed, 47,523 quarters; tare-seed, 31,278 quarters; onion seed, 988 cwt. This is besides bones and horns.

There has of late years been a larger production of honey, wax, chicory, and flax. New efforts are being made to produce maize and silk. The beetroot sugar cultivation was not favoured by the government, and, after producing about 250 tons of sugar yearly, died away in 1847. The tobacco in the south of England has been long since rooted up by the government. Attempts are being made to breed the alpaca.

English husbandry being unable to supply all the wants of the population, large imports of agricultural produce come from abroad. In 1847, the famine year, there were imported 9,436,677 quarters of corn and beans, and 8,633,991 cwts. of meal and flour, but most of this for Ireland. The corn included 3,608,312 quarters of maize, nearly all used in Ireland, and 1,705,717 quarters of oats, nearly all used for horses. The extra consumption of England for human food would be about 2,500,000 quarters, besides about 5,000,000 cwts. of wheat meal and flour. In common years the oats from Ireland (as in 1845) are

* This number is that of the adult horses only—mules, 500; brood mares, 4246.

† Partly based on the consumption of Smithfield.

‡ Taxed, 380,000—greyhounds, 11,981; sheep dogs, 78,905; fox-hounds, 120,000.

1,679,958 quarters, and the whole quantity of grain and flour 3,251,901 quarters, besides 100,000 cattle, 250,000 sheep, 700,000 pigs, and quantities of meat, butter, poultry, and eggs.

Manufacturing interests have of late years been promoted by legislative influence and private operations to a very great degree. As the agricultural interests are only concerned in the home supply, so the manufacturing interests are concerned in the foreign trade no less than the home supply. The duties on all raw materials have been taken off, but at the same time the duties on many articles of foreign manufacture have been lowered, so as to put the English manufacturer in competition with the foreign producer at home and abroad. The improvement of internal communications has given great facilities to the manufacturers, and has diminished the expense of internal transit, and the establishment of ocean mail steamers has accelerated the delivery of goods abroad, and the remittance of returns. Following the Mechanics' Fairs of the United States and the occasional Expositions of the continent, exhibitions of arts and manufactures have been held by the Society of Arts in London yearly; by the British Association for the Advancement of Science, in its mechanical section; and by the Royal Agricultural Society, for agricultural implements, likewise yearly, in the great provincial towns in succession; and by mechanics' institutions and agricultural societies in many of the towns occasionally. These have resulted in the organization of a national exhibition of the productions of all nations, to be held in London in 1851.

Schools of design have been set up in London and the great towns; museums of economic geology and botany in London and Kew; and professorships of machinery in the colleges. There are few towns without a drawing class in the literary or mechanics' institution. The institution of civil engineers has led to the formation of an Institution for Mechanical Engineers at Birmingham, and polytechnic societies have come into active operation in the provinces.

It is impossible to determine, for causes already given, the exact population solely dependent on manufactures, but some branches have, as it were, an existence less dependent than others on agriculture. Thus the cotton manufacture, working up a foreign material, and largely supplying foreign markets, has less connection with agricultural interests than the manufacture of wool or leather.

The return in 1841 of persons employed in England was as follows:—Trade and manufactures, 2,529,073 (Wales, 90,333); labourers (including miners, but likewise some agriculturists), 620,492 (Wales, 53,430). Of this there can be no question, that the number of persons actually employed in trade and manufactures is greater than that employed in agriculture.

The great manufactures are those of woven and felted materials, metals, and minerals; of all these, cotton, iron, and wool, are the most important.

The Cotton Manufacture has its chief seat in Lancashire and the neighbouring shires of the north midland, and the material is imported through Liverpool, where is the market, and the goods are exported by Liverpool, London, and Hull. To show the full working of the cotton manufacture, the returns of 1847, 1848, and 1849, are not sufficient, as those were years of depression.

The import of cotton wool in 1845, which was its height, was 721,979,953 lbs., whereof 626,650,412 lbs. from the United States, but 42,916,332 lbs. were exported.

The worth of cotton manufactures exported from Great Britain in 1846 was 16,701,632*l.*; hosiery, lace, and small wares, 1,016,146*l.*; cotton twist and yarn, 161,892,750 lbs., 7,882,048*l.*; altogether, 25,599,826*l.*, besides cotton, mixed with other manufactures.

In 1835, the number of cotton factories in England was 1262, whereof in Lancashire 715, Cheshire 116, York West Riding, 126, and most of the others in Derby. The number of persons employed was 182,092, whereof in Lancashire 122,415, Cheshire 31,512, West Riding 10,911, Derbyshire 10,850. The chief cotton towns are Manchester, Stockport, Hyde, Duckenfield, Oldham, Bolton, and Glossop.

In 1839, the whole number of mills was 1686, and of persons employed 218,136; four-fifths of the power being supplied by steam, equal to 40,590 horse power. In 1847 there were 1987 mills and 277,028 persons employed. In 1841 the number of persons employed in cotton manufactures, as given by the census, was about 320,000, of whom more than half were females, and two-thirds above 20 years of age.

This is exclusive of the hosiery manufacture, in which cotton is chiefly used, and in which nearly 50,000 persons were

employed in 1841, of whom three-fourths males. Nottingham is the chief seat of this branch, with Derby (silk), and Leicester (wool).

Much cotton is worked up into lace and bobbin-net. In 1841 about 35,000 persons were employed in this branch. The seats of this manufacture are in the three midland shires, already named, and in the west of England.

The WOOLLEN MANUFACTURE is seated in the West Riding of Yorkshire and in the west of England; Leeds, Halifax, Bradford, Rochdale, and Huddersfield, are its chief towns. Norwich for crapes, Kidderminster for carpets. The wool is got from home or abroad, through London or Hull, and the goods are shipped from London, Liverpool, or Hull.

In 1845 the import of wool was 76,813,855 lbs. Of this wool much is from Germany, but the quantity from our own settlements yearly becomes more. In 1847 the imports from Australia were 26,056,815 lbs., from the Cape, 3,477,392, and the East Indies, 3,063,142, being more than half of the wool brought in that year, which was 62,592,598 lbs. The export of foreign wool in 1847 was 4,809,725 lbs, and of English wool, 5,550,680, mostly to Belgium and France. Little wool is sent abroad from Scotland, Wales, or Ireland.

The worth of woollens exported was, in 1847, 6,896,038*l*. (United States, 2,277,732*l*.) In 1815 it was 9,381,426*l*., and in 1818, 8,140,767*l*., and, in 1849, 8,000,000*l*. There has been a great increase in woollen or worsted stuffs, from 593,308 pieces, in 1815, to 2,492,217, in 1844; and of woollens mixed with cotton from 926,264 yards, in 1815, to 32,612,854, in 1847. There has been a great falling off in baizes, flannels, kerseymeres, cloths, and duffels.

The export of woollen yarns, in 1847, was 10,065,231 lbs. (Germany and Holland, 6,959,720); 1849, 12,000,000.

The import of alpaca and llama wool is increasing; in 1849 it was 600 tons; likewise of mohair, or goat's wool, which in 1844 was 1,290,771 lbs.

In 1839 the number of woollen *mills* in England was 1076, besides 161 in Wales; and of worsted *mills*, 418. The persons employed in woollen mills in England was 47,040, and in worsted mills, 61,632.

In 1841, the number of persons enumerated in the wool and worsted manufactures was 121,249, besides 35,000 unenumerated. This manufacture is important, because it employs so large a number of males above 20 years of age, no less than 86,000.

The SILK MANUFACTURE is seated in London, Cheshire, and Lancashire.

The import of silk in 1845 was 6,328,128 lbs. (India, 1,723,092; Italy, 1,225,070; China, 1,169,643; France, 1,027,706). This is the greatest amount ever reached. In 1816 it was 1,088,334 lbs. The export of silk goods in 1844 was 736,455*l*., but the import of foreign manufactured silks is very large: in 1847, 599,609 lbs., besides East Indian silks, and 200,000 lbs. smuggled. Our silk manufacturers are lower in taste than those of France and others abroad. In 1839 the number of silk mills was 286, and the persons employed in them, 33,470; in 1847, 43,690. In 1841 the number of persons employed in the silk manufacture was about 78,000.

The LINEN MANUFACTURE is small, the Scotch and Ulster men having the greater share. In England there were, in 1841, 19,148 persons employed in the manufacture of flax and linen. The number of factories was, in 1839, 181; persons employed, in 1847, 19,840. Little flax is grown in England, as there is a wrong idea that it is a scourging and unprofitable crop, though it is grown in the sandy plains of Flanders, and in Ireland.

The HEMP MANUFACTURE, in 1841, employed 234 persons; canvass weaving, 322; *floor-cloth*, 299; sacking, 777; sail-cloth and tarpauling, 1662; *rope making*, 9169. The export of cordage in 1849 was 4000 tons, worth 140,000*l*.

In sundry textile manufactures there were employed, in 1841, in *hair* working, 852; sieve making, 334; *India rubber* working, 157; *felting*, 201; *hatting*, 16,615 (London, 3506); willow-weaving, 210, *straw plaiting*, 10,129; *cane working*, 198; gold lace making, 94; wire working, 1452; *basket making*, 5602; *mat making*, 782. Gutta percha was extensively introduced in 1848.

In various branches of textile manufacture were enumerated, as employed—in stuff making, 6574; *fustian*, 3553; thread, 756; tape, 994; *ribbons*, 6826; *carpets*, 3021; fringes, 710; trimmings, 399; weaving, 85,302; spinning, 8225; knitting, 1310; embroidering, 839; fulling, 1078; bleaching, 3066; dyeing, 15,412; *cotton printing*, 8972; plush and shag, 260; wadding, 67; girth webs, 79; gauze, 49; braid making, 82.

The PAPER MANUFACTURE employed, in 1841, 5612 persons; cards, 164; paste-

board, 47; paper staining, 1335 (London, 966); box making, 142; ruling, 138; rag cutting, 1290. In 1846, 10,140 tons of rags were imported, and 97,551,041 lbs. of paper were made, in 361 mills, showing that one quarter only of the material was obtained from abroad.

Bookmaking employed, in 1841, 15,928 printers, 10,590 booksellers and binders, 172 print-sellers, 176 print colourers, 112 mapsellers, 312 pocket-book makers, 61 music engravers, 628 type founders, 134 vellum binders, 87 ink makers. In 1847 the export of books was 11,607 cwts., worth 200,530*l.*; the export of stationery was 305,243*l.* The number of sheets of newspapers published in 1847 was 64,142,410.

In 1849 there were 4 licensed makers of playing cards and 1 of dice. The making of paper boxes and labels for shops and warehouses has become a great business, as is that of fancy stationery. Through the revolution of 1848, many French workmen settled in London, as box makers, artificial-flower makers, boot makers, dyers, and in various fancy trades.

The Leather Trades give extensive employment, among others, to 176,445 boot and shoemakers. The shoe trade has its seats in Northampton, Stafford, and London (28,574); that of gloves at Worcester; that of saddlery in London and Staffordshire; that of furs in London.

The import of untanned hides in 1845 was 80,332,784 lbs.; of tanned hides, 892,601 lbs; of leather gloves, 2,195,839 pairs; of kid, lamb, and sheep skins, 3,262,904; besides numbers of other skins, as of squirrels, 3,044,688; of seals, 632,304; of rabbits, 537,874; racoons, 552,748.

In 1841, the number of tanners was 5485; skinners, 1345; curriers, 9190; furriers, 1808; saddlers, 13,346; glovers, 8746; whip makers, 1332; brace and belt makers, 622; parchment makers, 399; which, with shoemakers, make altogether 218,713 persons.

The Mineral Trades embrace coal, iron, copper and brass, gold and silver, lead, tin, zinc, glass, porcelain, pottery, brick, salt, and stone.

The Coal Trade employed, in 1841, 88,184 miners: Durham, 15,202; Northumberland, 7547; Lancashire, 15,980; West York, 11,566; Cheshire, 1950; Derby, 4486; Nottingham, 1079; Leicester, 705; Stafford, 9937; Shropshire, 3826; Worcester, 912; Warwick, 780; Gloster, 2756; Somerset, 3394; besides those not distinguished. It is carried on in the northern, midland, and other coal fields. There were 676 coke burners.

At least 25,000,000 tons are raised yearly. Of this about 7,600,000 tons were carried by sea in 1847*; giving rise to a great coasting trade, and 2,000,000 tons, worth 800,000*l.*, were sent abroad (France, 670,035 tons; Dutchland and Holland, 568,297; Denmark, 184,032; Russia, 138,485; North America, 153,145).

The shipments of coal were—from Newcastle, 2,618,941 tons; Sunderland, 1,871,171; Stockton, 727,812; Hartlepool, 703,113; Whitehaven, 308,846; Maryport, 195,159; Goole, 144,723; Gloucester, 110,633.

In 1847, 11,911 ships brought into the port of London 3,302,425 tons.

The Iron Trade has its seat in Staffordshire and the neighbourhood, and has three chief branches—iron mining, iron working, and hardware—employing not less than 170,000 people.

In 1841 there were 7023 iron miners described (Stafford, 2570; Shropshire, 453; Derby, 591; West York, 1491; Furness, 27), besides others; and 21,982 employed in the iron manufacture.

The hardware towns are Birmingham, Wolverhampton, Walsall, Bilston, and Willenhall; the cutlery town, Sheffield.

Among various branches there were employed, in 1841, on anchors, 1711 persons; augers, 52; awls, 352; anvils, 119; bits, 843; buckles, 252; buttons, 3915; chains, 859; corkscrews, 168; cutlery, 8196; files, 4259; fish-hooks, 192; fire-irons, 129; forks, 571; fenders, 462; frying pans, 39; gimlets, 74; guns, 5141; hinges, 729; hooks and eyes, 88; locks, 5408; nails, 18,040; needles, 2509; pens, 327; pins, 1306; razors, 581; saws, 575; scales, 431; scissors, 1042; scythes, 183; screws, 745; snuffers, 180; spades, 349; spoons, 487; springs, 408; spurs, 136; stirrups, 158; swords, 116; surgical instruments, 224; thimbles, 97; tools, 4673; trays, 179; vices, 147.

The number of millwrights was 6622; of smiths, 75,965.

In 1847 the shipments of iron and steel were 549,709 tons, worth 5,265,779*l.*, and of hardware and cutlery, 20,114 tons, worth 2,341,981*l.*; altogether, 7,607,760*l.* (United States, 2,241,428*l.*; Dutchland and Holland, 1,814,013*l.*) Much of the iron is Welsh.

The Copper and Brass Trade is large

* 1849, 3,000,000 tons, worth 1,100,000*l.*

The copper mines are mostly in Cornwall. The yield was, in 1843, 10,926 tons; 1844, 11,247; 1845, 12,239; 1846, 12,448; 1847, 11,966; 1848, 12,870; 1849, 11,691. The whole quantity of copper worked up is about 25,000 tons yearly.

In 1841 the number of copper miners returned was 14,524 (Cornwall, 13,737; Devon, 459; Furness, 248); of tin and copper mines, 4044 (all in Cornwall); of those in copper works, 437; copper smiths, 1013; braziers, 6148; brass founders, 6440; cock founders, 162; bell founders, 28.

In 1847 the export of brass and copper manufactures was 15,300 tons, worth 1,451,868*l.* (India, 397,917*l.*; France, 331,535*l.*; United States, 269,091*l.*).

In the metal trades the number of founders is 933; engine makers, 6079; engineers, 20,349; wire drawers, 1283; chasers, 481; japanners, 1733; lamp makers, 415; moulders, 3316; polishers, 608.

The export of machinery in 1847 was 1,117,470*l.* (France, 167,167*l.*)

The Tin Trade is for the mining confined to Cornwall. The number of tin miners returned in 1841 was 6100; Cornwall, 5836; Devon, 150; and of tin and copper miners, 4044; in the tin manufacture, 829; tin-plate working, 6581.

The quantity of unwrought tin exported in 1847 was 1744 tons, and the whole value of tin and pewter wares, tin plates, and tin, 644,539*l.* (1849, 800,000*l.*) The quantity of foreign tin imported was 1165 tons, mostly re-shipped.

The Lead Trade employed, in 1841, 8350 miners—Shropshire, 486; Stafford, 52; Derby, 1461; Durham, 1461; Cumberland, 1426; Northumberland, 941; North York, 1048; West York, 571; Somerset, 51; Cornwall, 440; Devon, 189; Westmoreland, 199; Furness, 15. The lead manufacture employed 777 persons, and white-lead, 42. The number of plumbers is not distinguished. The export of lead, 1849, 18,000 tons, worth 300,000*l.*

The pewterers in 1841 were 311; 638 persons were employed in type founding; and 1564 in the manufacture of white and Britannia metal, and German silver.

The Silver Trade has its seats in London, Birmingham, and Sheffield. In the two former most silver plate is made, in the two latter most plated ware. Gold plate is likewise made in London. Some silver is got from the lead mines, but most of the silver and gold is brought from abroad. The trade in jewels and gems is likewise connected with this branch. In 1841 there were 8677 gold and silver smiths and jewellers (London, 4448; Birmingham, 1398; Sheffield, 409); platers—(Birmingham, 934; Sheffield, 251); gold beaters, 539 (London, 377); gold-lace makers, 94; assayers, 57; refiners, 184; diamond setters, 60; jewel-case makers, 50. Electro-plating and gilding is a new and great business at Birmingham and London.

The quantity of gold plate which paid duty in 1847 (being below the usual quantity) was 7500 ounces, and of silver plate 1,039,362 ounces. The export of plate, plated ware, jewellery, and watches, was 283,037*l.*

In 1849 the import of Zinc was 16,000 tons. Little is raised in England. In Somerset there were, in 1841, 51 miners; and the zinc manufacture employed 186 people.

About 1,000,000 lbs. of Quicksilver is yearly used up.

The Pottery Trades include bricks, earthenware, porcelain, and glass.

The number of makers of Bricks and Tiles in 1841 was 16,840.

The Earthenware Potteries are mostly in Staffordshire; there, too, porcelain is made, as well as in Derbyshire, at Leeds, and at Worcester. In 1841 there were employed 23,468 people (Staffordshire, 15,158; Worcester, 110; Derbyshire, 689; London, 320; Durhamshire, 516; Bristol, 167; Lancashire, 521; Northumberland, 346; Wenlock, 178; North York, 298; West York, 1039; [Leeds, 387]).

In 1847 the earthenware exported was worth 834,357*l.*; 1849, 800,000*l.*

The Glass Manufacture employed, in 1841, 7008 persons, in the following districts:—Northumberland and Durham [Newcastle], 1446; London, 1172; Staffordshire, 936; Birmingham, 796; Lancashire, 749; Stourbridge, 387; Manchester, 159; Warrington, 128; Bristol, 124; Leeds, 120; West Bromwich, 119; Somerset, 93; Sheffield, 53.

In 1844, when there was an excise on glass, the number of works was 128, and the quantity manufactured was 29,569 tons, but since it is much more. About 70 per cent. was bottle glass. The quantity of glass exported in 1847 was 13,739 tons, worth 291,190*l.*

The number of persons employed in making glass and emery paper in 1841 was 73; of clay miners, 405, besides flint miners; of crate makers, 553; tobacco-pipe makers, 127; crucible makers, 36; bead makers, 55.

In SALT Mines there were employed, in 1841, 268 persons (Cheshire, 265); in salt works, 651 (Cheshire, 504; Droitwich, 34; Lancashire, 27; Hants, 12); in the *alkali* manufacture, 118; and in that of soda, 39. The salt exported in 1847 was 16,271,927 bushels; worth 261,467*l.*; alkali (1849), 35,000 tons, worth, 300,000*l.*

The STONE TRADE employed, in 1841, 8676 people (West York, 3084); lime-burning, 1860; plaster of paris making, 227; whiting making, 84.

The extraction of sulphur from ores, to make sulphuric acid for bleaching, began during the dispute with Naples. About 40,000 tons of sulphur are yearly imported.

In miscellaneous mineral pursuits there were employed, in 1841, in alum works, 220 people, cement works, 100; chemical works, 531; gas works and gas fitting, 2105; gunpowder works, 153; manganese mines, 271 (Devon, 202; Cornwall, 69); jet mines in North York, 3; smelting, 622; vitriol and copperas works, 148; well-sinking, 313.

The TIMBER and BUILDING Trades employ great numbers of hands in home work. In 1841 there were employed, in bedstead-making, 396; blind-making, 340; carpentry, 128,193; chair-making, 4832; cabinet-making, 25,370 (London, 7973); coopers, 13,550; hoop-making, 720; last-making, 397; lath-rending, 1197; sawyers, 23,360; wine-coopers, 572.

SHIP-BUILDING employed 15,665 ship-builders (London, 2309; Liverpool, 1495; Sunderland, 1477; Plymouth, 1041; Portsmouth, 897; Shields, 784; Chatham, 339; Hull, 311; Bristol, 290; Whitby, 192; Yarmouth, 208; Newcastle, 183); boat-builders, 2391 (London, 502); block, oar, and mast-makers (London, 385); sail-makers, 3195 (London, 638; Liverpool, 439); ship-caulkers, 585; ship-riggers, 685; ship-smiths, 177.

In TURNERY there were employed 5925 turners; and in its subordinate branches, 1008 in bobbin-making; 206 in bone-working; 1752 in comb-making (London, 464; York, 107); 1458 in cork-cutting (London, 576); 106 in horn-working; 36 jet-working; 485 ivory-working (London, 301); 1107 pearl-working (Birmingham, 962; London, 68); 44 tortoiseshell-working; 84 whalebone.

In PAINTING and its allied branches there were employed 43,046 painters, plumbers and glaziers; 4091 carvers and gilders; 50 water gilders; 596 in colour and dye-works; 146 in varnish-works; 26 in turpentine works. In 1847 the export of painter's colours was 223,802*l.*

The DRESS TRADES are very extensive. In 1841 there were blacking-makers, 378; bonnet-makers, 4663; cap-makers, 1493; dyers, 15,412; artificial-flower makers, 1138 (London, 1025); furriers, 1808; glovers, 9064; hatters, 16,635; milliners and dress-makers, 89,588 (London, 20,780); seamstresses, 18,652; shoemakers, 176,445; stay-makers, 5677; stock-makers, 528; straw-bonnet makers, 8838; tailors, 102,251 (London, 23,517).

In 1847 the worth of apparel, slops, and haberdashery exported was 1,824,529*l.*, mostly to English countries.

The BEER TRADE is great. The brewers licensed in 1847 were 42,073; the maltsters, 7888. These numbers represent the establishments only, and not the workmen employed. 30,269,963 bushels of malt were used, and 45,134,367 lbs. of hops. The quantity of beer brewed is not less than 12,000,000 barrels (in 1829, 7,000,000). The number of barrels exported in 1847 was not more than 134,004, but the worth was 403,759*l.*

The number of DISTILLERIES and Rectifying Works in 1847 was 93. The quantity of spirits made in 1846, 7,952,076 gallons; in 1847, 6,037,383.

British Wine is now made to a great extent, and some is shipped abroad.

The number of *Vinegar* Works is 50. The quantity made in 1843 was 2,100,000 gallons.

In 1841 the number of makers of *Ginger Beer* and *Soda Water* was 547.

The remaining trades are given in alphabetical order. The numbers employed are for 1841, exports and imports for 1847, excise licences for 1847.

BRUSH and Broom making employed 5893 people.

COACHMAKING employed 11,668 (London, 4256; Birmingham, 411; Liverpool, 399; Manchester, 289; Bristol, 247; Norwich, 131; Southampton, 114; Leeds, 113; Newcastle, 113; Bath, 113; York, 111). The wheelwrights were 24,179.

The FEATHER Trade employed 202 people, and the cutting of pens and quills 345; bedmakers, 381.

MUSICAL INSTRUMENT making employed 2312, of whom 375 organ builders and 1921 in London (pianoforte, 1345; organ, 211). The number of organs in England is about 3000.

PHILOSOPHICAL INSTRUMENT making employed 1095 opticians (London, 536); instrument makers, 512; *barometer*

makers, 122; compass makers, 14; *spectacle* makers, 203; rule makers, 320; measure makers, 136; altogether 2402.

PATTEN MAKING employed 3708 people.

PERFUMERY employed 655 people.

For SOAP there are 147 licensed works. The number of pounds made was 157,160,793. The persons employed were 671, besides 46 in grease works and 3139 tallow-chandlers. The tallow imported was 54,963 tons, and the candles made about 75,000 tons. Palm oil 23,815, olive oil 8692, cocoa-nut 1625. The weight of soap and candles exported was 6900 tons; worth 212,135*l.*

STARCH employed 140 people.

SUGAR REFINING is carried on for home supply and export. Number of sugar-boilers, 897 (London, 645). Refined sugar exported, 11,459 tons.

The number of TOBACCO and SNUFF works licensed is 351.

The making of TOYS employed 1814 people (London, 553).

The number of UMBRELLA makers was 1738 (London, 831).

WATCH and CLOCK MAKING is a great trade. The number employed was 11,998 (London, 4290; Liverpool, 1223; Coventry, 831).

The MINERAL resources of the country have been already referred to under the head of MINERALS and Metals (p. 506).

The FISHERIES have of late years been greatly extended by the railways, and fish-markets are now set up in most of the inland towns. There were, in 1841, 9913 fishermen (Cornwall, 1472; Kent, 946; Norfolk and Suffolk, 953; Sussex, 756; Devon, 682; Essex, 653; Durham, 491; Hants, 490; Northumberland, 457; Lancaster, 425; North York, 364; East York, 322; Berwick, 269; Brighton, 225; Yarmouth, 191; Hastings, 175; Rochester, 151; Margate, 135; Shields, 135; Scarborough, 101.

In 1846 the number of fishing-boats for herring, cod, and ling, in the north-western division, was 354 (men, 1753); western, 192 (men, 497); Cumberland, 137 (men, 432); Cornwall, 905 (men, 3106); southern and eastern, 1608 (men, 8927); Yorkshire, 265 (men, 923); Northumberland, 265 (men, 923). This gives altogether 3446 boats and 16,763 fishermen (being more than in the census of 1841). The whole number of people employed was 23,550.

The mackarel fisheries are carried on from the east and south ports.

There is some whaling and sealing from Hull, Whitby, and London; and attempts were made, in 1849, to revive the South Sea whale trade by the establishment of a company for the Auckland Isles.

STATISTICS OF WALES.—South Wales is the seat of great iron and coal works, copper, smelting, and tin-plate works.

The persons employed in 1841 were as follows:—

Coal, 13,701 (Glamorgan, 6537; Caermarthen, 1499; Denbigh, 1991; Flint, 1698; Brecon, 1093; Pembroke, 851; Anglesea, 114). *Iron Mines*, 1522 (Glamorgan, 1347). *Iron Works*, 3966 (Glamorgan, 3113; Merthyr, 2065; Brecon, 519; Ruabon, 172). *Copper Mines*, 854 (Anglesea, 257; Caernarvon, 439; Glamorgan, 97; Merioneth, 49). *Copper Works*, 1689 (Glamorgan, 1343; Llanelly, 254; Swansea, 183). *Tin-plate Works*, 831 (Glamorgan, 608). *Lead and Silver Mines*, 2292 (Flint, 1439; Cardigan, 545; Caermarthen, 74; Montgomery, 83; Denbigh, 84; Merioneth, 52). *Lead Works*, 329 (Holywell, 244; Cardigan, 44). *Zinc* (Glamorgan) 45. *Miners*, 7631 (Brecon, 2097). *Slate Quarriers*, 3876 (Caernarvon, 2832; Merioneth, 825). *Quarriers*, 2807 (Caernarvon, 1334). *Lime* burners, 151. *Coke* burners, 234. *Engineers*, 1218. *Nailers*, 624 (Denbigh, 147; Glamorgan, 170). *Pottery*, 342 (Swansea, 109; Llanelly, 47).

The *Flannel* and *Woollen* manufactures, 5784 (Montgomery, 2414; Glamorgan, 593; Caermarthen, 478; Denbigh, 385; Merioneth, 333). *Stockings*, 126 (Caermarthen, 48; Pembroke, 47). *Cotton* manufacture, 365 (Flint, 246). *Tanning*, 310. *Malting*, 438. *Brewing*, 136. *Paper*, 136 (Denbigh, 84). *Fishing*, 442 (Pembroke, 150) *Ship-building*, 1254 (Pembroke, 581; Glamorgan, 212).

The number of clergymen was 953; dissenting ministers, 657; teachers, 1471; medical men, 632; lawyers, 372.

The coals shipped from Cardiff in 1846 were 442,065 tons; Newport, 493,582; Swansea, 454,350; Llanelly, 236,161; Milford, 68,491.

The quantity of copper ore sold at Swansea in 1846 was 62,950 tons, equivalent to 10,349 tons of metal.

WEALTH OF THE COUNTRY.—England has more great towns than any other land; witness London (the capital of the world), Liverpool, Manchester, Birmingham, Leeds, Bristol, and Sheffield; besides the cities of pleasure—Bath, Brighton, and Cheltenham.

The number of houses has been already shown (p. 498). The number

of persons "independent" in 1841 was 100,899; and of professional persons, 200,935.

About 70,000 persons keep carriages, 65,000 keep men-servants, and 120,000 keep horses. There are 7000 of those keeping three or more servants and horses. 38,074 persons pay for the use of armorial bearings, 35,000 for game certificates, 2500 game-keepers are kept, 1200 racers, and 80 packs of hounds.

The worth of house and personal property insured against fire is 640,000,000*l.*; the amount of personal property passing yearly by probate is 45,000,000*l.*; the yearly income of land assessed to the poor-rate in 1841 was 30,448,991*l.* (and in Wales 2,206,146*l.*); of houses 22,991,471*l.*; of other real property 6,244,949*l.*; altogether, 59,685,412*l.*; and of Wales, 2,854,618*l.*; making 62,540,030*l.* The assessment of England and Wales to the property-tax in 1843 was, however, 85,802,735*l.*; (lands, 40,167,088*l.*; houses, 35,556,400*l.*; mines and quarries, 2,210,803*l.*; iron works, 412,022*l.*; canals, 1,229,202*l.*; railways, 2,417,610*l.*).

There are at least ninety persons who receive dividends from stock of more than 5000*l.* a-year, 200 under 2000*l.*, 700 under 1000*l.*, 1500 under 500*l.*, 2000 under 300*l.*, 7000 above 100*l.*, 20,000 above 50*l.*, 50,000 above 10*l.* The whole number entitled to dividends is not less than 150,000.

In England, in 1847, 25,838,109*l.* was invested in 458 savings' banks; in Wales 697,840*l.* in 24. The number of depositors was 882,009, besides 19,817 charitable funds; and in Wales 20,270, besides 708 charitable funds. In Middlesex the amount was 3,243,446*l.*; Surrey, 767,050*l.*; Yorkshire, 2,363,540*l.*; Lancashire, 2,279,846*l.*; Devonshire, 1,617,023*l.*

The number of depositors holding more than 200*l.* was 2669; above 100*l.*, 146,266; above 20*l.*, 211,266; smaller sums 521,808.

Supposing that the average duration of plate is forty years, there is now 36,000,000 ounces of silver plate and 240,000 ounces of gold plate in the country; that is to say, 3,000,000 lbs. weight of silver plate and 20,000 lbs. weight of gold plate, a quantity small, however, in comparison with the wealth of the country; for more gold and half as much silver bullion passes yearly into the Bank. To ascertain the metallic wealth, must be added the current coin and the gold and silver used in plated articles and jewellery. The quantity of gold and silver plate was, perhaps, as much a hundred years ago. There has been a much greater increase in old and new pictures, statues, engravings, and books.

Enormous wealth is the lot of but few, still the comforts of the great bulk of the people are very great.

The consumption of sugar is about 25 lbs. yearly per head, coffee 2 lbs., tea 2 lbs., malt 2 bushels, spirits half a gallon (Scotland 2½ gallons, Ireland 1 gallon), strong beer 25 gallons, tobacco 1 lb., soap 10 lbs.

In 1844, when there was a duty on auctions, the sales were 7,522,463*l.*, besides those not paying duty.

Railways and Communication.

The establishment of a system of railways has very much altered the relations of the country in many respects. Towns which ten years ago were distant a journey of three days and three nights can now be reached within daylight, and all the great towns of England are within about four hours' journey of London and each other. This has been accompanied by cheaper conveyance of passengers and goods, cheaper postage, speedier and oftener delivery of letters.

London is the great kernel of the railway system; the others are Bristol, Birmingham, Manchester, York, and Newcastle. From London railways reach to the Kentish ports (*South Eastern*); to Brighton (*South Coast*); the Hampshire and Dorsetshire ports (*South Western*); through the valley of the Thames to Bristol, Exeter, and Plymouth (*Great Western*); to Cambridge, Lincolnshire, and the North (*Great Northern*); to Cambridge and to the ports of East England (*Eastern Counties*). The great line, however, is that to Birmingham (*London and North Western*), communicating on the *west* with Holyhead, Liverpool, Manchester, Preston, Carlisle, and Scotland; and on the *east* (by the *Midland*), with Derby, Lincolnshire, Sheffield, Leeds, Hull, York, Newcastle, and thence along the whole Scotch coast to Aberdeen.

Through Bristol, lines pass from Plymouth to Gloucester and Birmingham, thence joining the *London and North Western* and the *Midland*, and giving a grand line, from north to south, between Plymouth and Aberdeen. From Gloucester a line goes off to South Wales.

From Birmingham, Rugby, and Derby, various railways branch off. A grand line here passes through Mid England,

between the east and west, from Yarmouth to Norwich, Leicester, Birmingham, Shrewsbury, Chester, and Holyhead.

The midland shires, Lancashire and Cheshire, and West York have a network of railways accommodating every town. Two lines here cross from sea to sea, one between Liverpool, Leeds, and Hull (the *Lancashire and Yorkshire*); the other between Liverpool and Birkenhead, Manchester, Sheffield, Goole, and Great Grimsby (*Manchester and Sheffield*).

Around Newcastle is a network of colliery lines for shipping coals. A line passes from sea to sea, from Newcastle to Carlisle and Whitehaven, and thence south along the Cumberland coast.

One line runs through the Weald between Dover, Canterbury, Reigate, Guildford, and Reading to the west, being a junction of the *South Eastern* and *Great Western*. A south-coast line unites Margate, Ramsgate, Deal, Dover, Hastings, Brighton, Chichester, Portsmouth, Southampton, Poole, and Weymouth.

In carrying out these undertakings many gigantic works have been executed, as the Britannia tubular bridge across the Menai Straits, the high level bridge at Newcastle, the summit tunnel of the Manchester and Sheffield Railway, the works at Shakspeare Cliff on the South Eastern, the floating bridge at Hull, the stations in London, Liverpool, Manchester, Birmingham, and Derby, besides many tunnels, viaducts, embankments, and lifts, in which engineering skill and invention have been shown. New forms of brick, iron, wood, girder, and chain bridges have been introduced.

The number of miles open in 1842 was 1532; 1843, 1586; 1844, 1780; 1845, 2043; 1846, 2610; 1847, 3449; 1848, 4330; 1849, 5120; 1850, 5950 (1000 miles are in Scotland and Ireland). There are above 1000 stations.

The amount expended on railways before 1843 was 52,380,100*l.*; in 1843, 5,255,000*l.*; 1844, 6,844,000*l.*; 1845, 8,157,000*l.*; 1846, 12,519,000*l.*; 1847, 26,363,000*l.*; 1848, 40,000,000*l.*; 1849, 38,000,000*l.* Deductions must be made for Scotland and Ireland.

The whole outlay upon railways to 1849 was 200,193,058*l.*; and to 1850, 220,000,000*l.* In May, 1847, 247,042 labourers were employed in making railways.

The number of passengers carried by railway was, in 1844, 27,763,602½; 1845, 33,791,253; 1846, 43,790,983; 1847, 51,352,163; 1848, 57,905,070.

The amount received for passengers was, in 1844, 3,439,294*l.*; 1845, 3,976,341*l.*; 1846, 4,725,215*l.*; 1847, 5,148,002*l.*

The whole revenue of railways was, in 1842, 4,341,781*l.*; 1845, 6,649,224*l.*; 1846, 7,891,874*l.*; 1847, 8,975,671*l.*; 1848, 10,059,006*l.*; and 1849, 11,683,000*l.* This includes some Irish and Scotch returns.

The effect of railways has been to increase the passenger traffic three or fourfold, and the goods' traffic four or fivefold.

Taking each journey at 20 miles, each grown-up Englishman, in 1835, travelled five times, or 100 miles in a year. In 1850 he travels twenty times, or 400 miles in a year, and in the same space of time, as in 1835.

The cattle carried in 1847 were 500,000 horned cattle, 2,000,000 sheep, 390,000 swine (few Irish swine carried). About half the cattle and sheep for Smithfield market are carried by railway. The saving of animal food by railway carriage over driving is about 60,000,000 lbs. yearly. Cattle are now, however, to a great extent, killed in the country, and sent up to what are called the "dead-meat" markets by railway, so that the meat is better, and a great saving is made on them. This may, perhaps, be as much as on live beasts; altogether the saving may be as much as 120,000,000 lbs. yearly, or enough to supply 360,000 persons with meat yearly. Directions have been sent into the country by electric telegraph at night to kill beasts, and in the morning the carcase has been brought by railway to market.

9,000,000 tons of coal are yearly carried, 200,000 of lime for farming, 600,000 of building stones, 600,000 of ironstone, 300,000 of iron.

The fish carried is about 50,000 tons, and is mostly from the east coast to the midland shires. Above 700,000 tons of provisions are carried by railway, including fresh meat, fish, poultry, milk, eggs, butter, vegetables, and fruit, which are now carried from vast distances each morning to the great towns.

The production of food is, by railways, economized in the carriage; increased by the supply of manures and materials; stimulated by the encouragement to convey to market, in a better condition, the higher-priced productions. Milk could not be formerly

carried above five miles, nor vegetables above fifteen, and now they are carried a hundred.

Many trades have benefited by the rapid and cheap carriage of parcels. The number is not less than 18,000,000 yearly, carried, on an average, at about 6*d.* each. Above 2,000,000 parcels are sent in and out of London, 600,000 in and out of Manchester. By this means groceries, drapery, fish, poultry, and books are supplied to the retailers, who are now able to keep a less stock, and supply a greater variety of goods. While more travellers are sent out, by the facilities of sending letters and circulars the wholesale dealers and manufacturers have better access to their customers, and the latter have the means, by cheap transit, of personally selecting their goods from the warehouses and factories.

In 1847 about 17,000,000 tons of goods and minerals were carried by railway.

Each passenger travels 16 miles and pays 2*s.*; but this includes short lines. The average receipt on the London and North Western is 4*s.*; Great Western, 4*s.* 9*d.*; Midland, 2*s.* 7*d.* Each beast travels 45 miles; sheep, 70 miles; swine, 70 miles; fish, 50 miles.

By the introduction of this system the stage coaches and their establishments have been virtually suppressed; and the towns on the old coach roads, with their inns, horses, hostlers, and farriers, have been much reduced in importance. Many towns have, however, become seats of railway enterprise, from which some of them have much benefited, as Derby, York, Rugby, Crewe, Cambridge, Lancaster, Leicester, Peterborough, Carlisle, Chester, Exeter, Gloucester, Ipswich, Stafford, Tamworth, Lincoln, Warrington, and Reading. Many new towns have been created, or old ones greatly enlarged, by the formation of railway refreshment stations, or repairing shops, as Wolverton, Swindon, Crewe, Kingston, Normanton, Slough, and Reigate. Many suburban towns have greatly increased in importance. The professional men of London have sometimes residences at Brighton, Reading, Slough, Kingston, Croydon, Cheshunt, or Chelmsford.

In 1848 the electric telegraph was first established on a large scale; and although exorbitantly dear, and only communicating with the large towns, at once produced a great change in the commercial relations of the country. The prices of every market, the arrivals of packets, the signalling of ships, are now at once known in all the great seats of trade.

The execution of the vast railway works, and the great development they have given to joint stock enterprise, have had an important influence on the professions of civil and mechanical engineers. Engineering now forms a faculty in the Universities of London and Durham; and there are professors in University and King's College, London; in Durham College; and in the College for Civil Engineers at Putney. The exhibitions of machinery have likewise had a connection with this increased patronage of engineering. There are still wanted schools for mechanics, a college for mining (as there are only the schools at the Museum of Economic Geology and Durham), a general mechanical museum, and public libraries for mechanics. The local scientific and mechanics' institutions are inadequate for these purposes.

Trade.

The external trade of England is necessarily carried on by sea, and therefore can be more easily ascertained than in the case of other countries.

The returns of shipping are for Great Britain and Ireland. In 1848 there were, belonging to the English, 24,409 ships, making 3,254,353 tons, with 183,278 men. In 1847, 103 steamers, making 16,170 tons (England, 78; tons 7020), and 830 sailing vessels, making 129,664 tons, were built.

The voyages made in the coasting trade in 1848 were 142,525 (12,219,796 tons) inwards, and outwards 158,922 (13,265,625 tons). The voyages inwards and outwards, between England and Ireland, are about 26,000 (3,400,000 tons), so that the coasting trade of England alone is about 16,000,000 tons altogether, inwards and outwards.

The number of voyages in the foreign trade in 1847 was (inwards) 24,017; 4,942,094 tons (Russia, 541,838 tons; France, 554,065; Holland, 279.778; Dutchland, 241,579; East Indies, 235,648; English North America, 953,466; U. States, 437,095; W. Indies, 243,388).

Of the tonnage, not English, in the foreign trade entering or clearing, there were, in 1847, U. States, 636,324 tons; Prussia, 276,563; Norway, 208,192; France, 204,813; Denmark, 129,107; German States, 174,019; Italy, 89,604; Holland, 72,754.

In 1847, 9403 ships (1,931,771 tons) entered the port of LONDON, besides coasters, 21,926 (3,118,360 tons), making altogether 31,329 ships (5,059,131 tons); foreign trade, 1,281,495; colonial, 647,461; coasting, 3,118,360. Russian, 211,713; English North America, 206,541; Asia and Australia, 252,151; U. States, 123,570; Holland, 137,879; Prussian, 102,910; French, 111,969; West Indies, 154,653. LIVERPOOL, 14,562 ships and coasters (2,809,477 tons); whereof Irish trade, 641,455; coasting and Isle of Man, 626,019; U. States, 630,728; English North America, 269,183; South America, 105,519; Asia, 112,727. HULL, besides coasters, 2476 ships (455,850 tons). STOCKTON, 5908 (129,060 tons; foreign and colonial, 102,952). SOUTHAMPTON, 2255 (tons 304,484; foreign and colonial, 126,546).

The number of steam-vessels belonging to England in 1847 was 784, making 93,693 tons. The number of coasting steam-vessels entering English ports was 11,071 (2,176,807 tons, and of foreign and colonial, 4,223 (789,329 tons).

The whole value* of imports into Great Britain was, in 1845, 83,330,609*l.*; 1846, 73,057,696; 1847, 82,886,971*l.*

The whole value, "official," of these imports re-exported was, in 1845, 16,259,126*l.*; 1846, 16,291,204*l.*; 1847, 19,999,344*l.* The "real" value of English goods exported was, in 1845, 59,837,660*l.*; 1846, 57,545,985*l.*; 1847, 58,738,945*l.*; 1848, 53,000,000*l.*; 1849, 66,000,000*l.*

The chief imports in 1847 were COTTON, 211,923 tons (see p. 504); WOOL, 27,898 tons (see p. 505); SILK, 1989 tons; FLAX, 52,604 tons (Russia, 39,058; Prussia, 7092); HEMP, 40,078 tons (Russia, 27,142; India, 9284).

SUGAR, 410,476 tons (East Indies, 70,011; Mauritius, 59,696; Cuba, 43,771; Brazil, 39,960; Jamaica, 37.576; Guiana, 31,776; Barbadoes, 23,951; Trinidad, 19,076; Porto Rico, 14,424; Antigua, 12,012; Java, 9684; Philippines, 8691; MOLASSES, 49,491 tons.

TEA, 24,832 tons; COFFEE, 24,711 tons (Ceylon, 12,000; Central America, 3200; Jamaica, 2900; Brazil, 2700; Venezuela, 1300); COCOA, 2232 tons; PEPPER, 2639 tons (re-exported 1300); PIMENTO, 606 (re-exported, 389); GINGER, 649 (re-exported, 348); nutmegs, 164; cinnamon, 170; cassia lignea, 150; cloves, 464; mace, 26.

CORN and GRAIN (famine year), 9,436,677 quarters; meal and flour, 481,699 tons; wheat, 2,656,455 quarters (North Russia, 380,246; South Russia, 402,897; Prussia, 490,435; United States, 423,810; France, 144,913; Egypt, 120,811; Turkey, 109,101; English North America, 88,905; Denmark, 72,221; Mecklenburg, 60,549); barley, 772,683 quarters (Denmark, 307,214); oats, 1,705,708 quarters (Denmark, 228,514; Holland, 114,300); rye, 68,817 quarters; peas and beans, 601,294 quarters (Egypt, 322,495); Indian corn, 3,608,312 quarters (United States, 1,943,201; Wallachia and Moldavia, 380,920; Austria and Hungary, 248,301; Turkey, 272,062); wheat meal, 316,452 tons (United States, 246,806; English America, 54,230); rye meal, 39,275 tons (Russia, 36,041); Indian meal, 72,441 tons (United States, 70,194).

In that (the famine) year, the United States supplied 2,463,672 quarters of grain and 317,784 tons of meal; English North America, 143,206 quarters, 56,922 tons; Russia, 1,953,208 quarters, 37,463 tons; Denmark, 688,054 quarters; Prussia, 646,282 quarters; Egypt 538,685 quarters; Wallachia and Moldavia, 463,212 quarters; Turkey, 449,906 quarters; Austria and Hungary, 298,813 quarters; France 257,830 quarters.

RICE, 78,020 tons (India, 61,860); SAGO, 2753 tons (India, 2662); ARROW ROOT, 529 tons.

SALT BEEF, 5639 tons; bacon, 4526 tons; hams, 860 tons; salt pork, 11,789 tons; *butter*, 15,706 tons (Holland, 9900); *cheese*, 17,740 tons (Holland, 12,186; United States, 5466); eggs, 77,485,487; *anchovies*, 13 tons; salmon, 27 tons; isinglass, 92 tons.

APPLES, 331,073 bushels; small *nuts*, 207,784 bushels; walnuts, 45,262 bushels; chestnuts, 45,919 bushels; almonds, 1286 tons; RAISINS, 12,699 tons (Spain, 9940; Turkey, 2105); CURRANTS, 19,778 tons (Greece, 10,277; Ionian Isles, 9282); FIGS, 1618 (Turkey, 1226); PRUNES, 751 tons (France).

BRANDY, 2,928,471 gallons (France, 2,758,418); RUM, 6,642,907 gallons (Jamaica, 2,140,521; Guiana, 1,889,576); GIN, 382,271; WINE, 7,938,067 gallons (Spain, 3,407,078; Portugal, 2,685,157; Madeira, 201,096; Cape, 323,124; Sicilian, 550,408; French, 323,124; Rhenish, 67,207; Canary, 138,362).

* The valuation of imports is not the real value, but a purely artificial valuation, called "artificial," made according to an old scale, but which serves to show the fluctuations of trade. The valuation of exports is that "real" or "declared" by the merchants, and approaches the market price.

TOBACCO, 15,790 tons (United States, 14,000).

LIQUORICE, 938 tons (Naples, 617; Spain, 232).

MEDICINES.—Opium, 53 tons (Turkey, 48); rhubarb, 132 (China); bark, 343; (Peru, 250); senna, 246 (India, 200); sarsaparilla, 61 (United States, 20); Jalap, 24; castor oil, 201 (India).

OIL.—Palm, 23,365 (Africa, 23,467); olive, 8692 (Naples, 3655; Spain, 2407; Turkey, 1282); cocoa nut, 1625; spermaceti, 6286 tons (South Seas, 3748; Australia, 1823); train and cod oils, 16,663 tons (Newfoundland, 10,161; Greenland, 2939; Australia, 2170).

TALLOW, 54,963 tons (Russia, 46,946).

Wax, 431 tons (Africa, 260).

Turpentine, 16,193 tons (United States, 15,831).

Whalebone, 406 tons (Australia, 162; South Seas, 99; Greenland, 86).

HIDES, 105,818 tons; *bristles*, 691 (Russia, 570); *horns*, 2566; ivory, 314 tons (India. 196; Africa, 100).

DYE and TANNING STUFFS.—Bark, 16,064 tons (Flanders, 8713); shumac, 11,975 (Naples, 9989); valonia, 9904 tons (Turkey, 7840); annatto, 119 tons; fustic, 6434 tons (West Indies); indigo, 3720 tons (India, 3983); cochineal, 730 tons; gum arabic 1352 tons (India, 727); lac dye, 370 tons (India); shellac, 431 tons (India); logwood, 15,455 tons (West Indies and Central America); madder and root, 8558 tons (France, 318; Turkey, 294; Holland, 120; Naples, 90); safflower, 506 (India); gum tragacanth, 20; gum animi and copal, 357; Nicaragua wood, 3569; smalts, 130; yellow berries, 391; zaffres, 113.

WOOD and TIMBER, 1,255,851 loads (English North America, 1,117,020; Prussia, 383,400; Russia, 199,676; Sweden, 128,258; Norway, 98,746); mahogany, 34,009 tons (Honduras, 26,640); cedar, 1671 tons; boxwood, 1306 tons; rosewood, 998 tons; teak, 15,660 loads (India and West Africa).

CORK, 2806 tons (Portugal, 2460).

ASHES, pearl and pot, 5127 tons (United States); BARILLA, 1638 (Naples, 1009).

IRON, 33,317 tons; ZINC, 12,769; BRIMSTONE, 39,254 (Naples, 37,484); borax, 1,144; saltpetre, 25,618 (Peru, 13,506; India, 9610).

Of the EXPORTS, woven goods form the chief.

COTTON manufactures, hosiery, lace, twist, and yarn, 23,333,225*l*. (India, 3,178,535*l*.; United States, 2,635,194*l*.; Dutchland and Holland, 4,386,148*l*.*; Turkey, 1,848,018*l*.; Brazil, 1,477,340*l*.; China, 1,013,078*l*.; Italy, 1,062,109*l*.†; Russia, *yarn*, 748,882*l*.; English North America, 606,814*l*.; West Indies, 1,117,065*l*.; Chili, 497,711*l*.; Syria, 391,196*l*.; Egypt, 283,029*l*.; Java, 287,312*l*.; West Africa, 229,340*l*.; Peru, 299,766*l*.; Monte Video, 220,385*l*.; Cuba, 224,674*l*.; Tuscany, 268,656*l*.; Naples, 226,550*l*.; Cape, 193,422*l*.)

WOOLLENS, 6,896,038*l*. (United States, 2,277,732*l*.; English North America, 582,422*l*.; China, 390,437*l*.; Brazil, 330,089*l*.; Italy, 256,218*l*.; East Indies, 242,975*l*.)

LINENS are mostly from Scotland and Ireland—3,608,744*l*. (United States, 1,113,754*l*.; Cuba, 250,722*l*.)

SILKS, 985,626*l*. (United States, 349,413*l*.; France, 171,764*l*.; English North America, 117,425*l*.)

WORSTED, 1,001,364*l*., mostly yarn, to the Germanic ports. The High Dutch are large consumers of cotton, woollen, worsted, and linen yarn.

APPAREL, SLOPS, and HABERDASHERY, 1,824,529*l*. (Australia, 369,593*l*.; United States, 362,073*l*.; English America, 356,006*l*.; West Indies, 225,747*l*.; Cape, 105,746*l*.)

HATS, 41,754*l*.

WOOL, English, 288,231*l*. (France, 136,454*l*.; Flanders, 126,509*l*.)

CORDAGE, 154,990*l*. (English America, 102,807*l*.)

LEATHER, 341,829*l*. (English America, 111,272*l*.) Saddlery and harness, 120,698*l*.

STATIONERY, 305,243*l*. to the English settlements. BOOKS, 200,530*l*. (India, 41,926*l*.; United States, 48,313*l*.; Australia, 26,779*l*.; English America, 19,013*l*.; France, 10,270*l*.; Dutchland, 9211*l*.; West Indies, 9003*l*.; Malta, 5121*l*.; Gibraltar, 3222*l*.; Cape, 3528*l*.)

IRON, 5,265,779*l*. (United States, 1,310,225*l*.; Dutchland and Prussia, 1,045,557*l*.; Holland, 423,920*l*.; English America, 342,136*l*.; France, 214,386*l*.; Russia, 176,769*l*.; India, 186,338*l*.; English West Indies, 141,141*l*.; Cuba, 144,270*l*.; Turkey, 146,241*l*.)

COPPER and BRASS, 1,541,868*l*.

ARMS and AMMUNITION, 485,647*l*. (India, 226,812*l*.; West Africa, 104,403*l*.)

MACHINERY and MILLWORK, 1,263,016*l*. (Dutchland, 173,463*l*.; India, 148,646*l*.; Russia, 226,636*l*.; Spain, 97,516*l*.; France, 78,757*l*.; West Indies, 52,286*l*.)

HARDWARE and CUTLERY, 2,341,981*l*. (United States, 931,203*l*.; Dutchland,

* Yarn, 3,076,465*l*.

† Yarn, 387,207*l*.

176,759*l.*; English America, 166,094*l.*; India, 117,789*l.*; France, 102,515*l.*; Cuba, 80,024*l.*)

LEAD and SHOT, 179,344*l.* (France, 30,998*l.*)

TIN, 644,539*l.* (United States, 253,940*l.*; Turkey, 53,077*l.*)

PLATE, PLATED WARES, JEWELLERY, WATCHES, 283,037*l.* (United States, 74,180*l.*; India, 38,416*l.*)

SALT, 261,467*l.* (United States, 99,328*l.*; Russia, 38,026*l.*)

PAINTERS' COLOURS, 223,802*l.* (United States, 60,650*l.*)

EARTHENWARE, 834,357*l.* (United States, 356,747*l.*; Brazil, 61,490*l.*; English America, 52,869*l.*; India, 38,982*l.*; Dutchland and Holland, 66,364*l.*; West Indies, 27,973*l.*; Australia, 27,973*l.*; Cuba, 26,344*l.*)

GLASS, 291,190*l.* (India, 72,231*l.*; Australia, 47,739*l.*; English America, 33,890*l.*; West Indies, 24,374*l.*; United States, 27,136*l.*)

BEER and ALE, 403,759*l.* (India, 110,376*l.*; Australia, 88,815*l.*; West Indies, 53,882*l.*; Brazil, 11,284*l.*; Cuba, 10,935*l.*)

BACON and HAMS, 42,584*l.*; beef and pork, 24,534*l.*; BUTTER and CHEESE, 175,102*l.*; FISH, herrings, 180,208*l.*

SUGAR—refined, 413,437*l.* (English America, 74,917*l.*; Russia, 72,389*l.*; Naples, 49,691*l.*; Turkey, 43,608*l.*)

SOAP and CANDLES, 212,135*l.* (West Indies, 95,878*l.*; English America, 46,671*l.*; Cape, 22,716*l.*; Australia, 10,460*l.*)

The weight of imports is—cotton, 211,923 tons; wool, 27,898; flax, 52,604; hemp, 40,078; sugar, 410,476; molasses, 47,491; tea, 24,832; coffee, 24,711; spices, 4870 tons; tobacco, 15,790; meal and flour, 2,000,000; rice, 78,020; meat, butter, and cheese, 56,392; fruits, 36,132; medicines, 1060; oils, 56,631; tallow, 54,963; turpentine, 16,193; hides, 105,818; dye and tanning stuffs, 80,228; minerals, 22,102.

The weight of exports cannot be so well calculated. Cottons and other yarn, 66,000 tons; metals and minerals, 3,094,202 (coal, 2,483,161; iron, 549,709).

The whole weight of imports, excluding grain and meal, is 1,300,000 tons, besides 2,000,000 loads of timber. The weight of groceries is 531,346 tons, and of textile materials, 323,492. The whole weight of exports is 3,400,000 tons.

The relative value of the import trade from foreign countries cannot be ascertained. The value of the export trade is only a partial index of the whole trade. The exports of English manufactures, in 1847, were—to the United States, 10,974,161*l.*; East Indies, 5,470,105*l.* (1844, 7,695,660*l.*); Dutchland, Prussia, and Holland, *mostly yarn*, 9,857,602*l.*; English America, 3,233,014*l.*, Brazil, 2,568,804*l.*; Turkey, 2,363,442*l.*; France, 2,554,283*l.*; English West Indies, 2,102,577*l.*; Russia, 1,844,543*l.*; Australia, 1,644,170*l.*; China, 1,503,969*l.*; Spain and Portugal, 2,127,490*l.*; Cuba, 896,554*l.*; Chili, 866,325*l.* (1845, 1,077,615*l.*); Cape, 688,208*l.*; Tuscany, 637,748*l.*; Naples, 636,690*l.*; Peru, 600,814*l.* (1845, 878,708*l.*); Flanders, 1,059,056*l.*; Egypt, 538,308*l.*; Austria and Hungary, 537,009*l.*; West Africa, 518,420*l.*; Syria, 415,292*l.*; Java, 357,870*l.*; Sardinia, 355,366*l.*; Monte Video, 334,083*l.*; Mauritius, 223,563*l.*; Greece, 233,913*l.*; Denmark, 253,701*l.*; Wallachia and Moldavia, 213,547*l.*; Hayti, 192,089*l.*; Venezuela, 182,279*l.*; Rome, 181,894*l.*; Sweden, 179,367*l.*; Norway, 169,149*l.*; Honduras, 170,947*l.*; Buenos Ayres, 156,421*l.*; Ionian Isles, 143,426*l.*; New Granada, 145,606*l.*; Philippines, 104,486*l.*; Mexico, 100,688*l.*; Central America, 86,983*l.*

The Board of Trade is a government department, watching over the statistics, and regulations affecting trade at home and abroad, and communicating through the Foreign Office with the English consuls in the several seaports abroad.

The merchants have East India, West India, and Australian associations, and chambers of commerce, in the great towns. The exchanges and markets have been very much enlarged of late years, particularly corn and fish markets.

The circulation is partly paper, issued by the Bank of England and its branches, and by some provincial banks, and private bankers. The banking business is carried on in London to a great extent by private bankers, but there and elsewhere by the Bank of England and joint-stock banks.

In Jan., 1850, the circulation of the Bank of England was 18,256,500*l.*; the circulation of the other English banks is about 8,000,000*l.*; making, altogether, about 27,000,000*l.*

For some years, the circulation of the Bank of England has been about 20,000,000*l.*; in September, 1847, 13,749,187*l.* The bullion in the Bank on the 29th August, 1849, was 16,366,068*l.*; 23rd October, 1847, 8,312,691*l.*; on the 5th Jan., 1850, 17,020,480*l.*

The amount of coined money in Eng-

land is not known; it is much less, relatively, than in other countries, as it circulates more freely, and therefore less is wanted, and as it is not hoarded. The chief coinage is of gold.

For the extension of intercourse, besides the inland railways and coasting steamers, steamboats run to most of the ports of the North Sea, the East Sea, West Europe, and the Mediterranean Sea, carrying mails. Great lines of steam navigation are encouraged by government grants, and employ large steamers for ocean navigation, and the United States have now followed the example. On the east, there is a line from England through the Mediterranean to the Black Sea and Egypt, then across that country by land, commencing again at Suez, through the Red Sea to Bombay, Ceylon, Madras, Calcutta, Malaya, China, and Australia. On the west, one line is to Halifax, Boston, and New York; this joins to the other line, which is to the islands of the West Indies and to the Spanish main; then by a short route across the isthmuses, beginning again in the Pacific, one branch running north to California, the other south to Peru and Chili. War and other steamers occasionally run to the Cape, Brazil, and New Zealand.

Pine apples, shaddocks, bananas, yams, turtle, southern and tropical fruits, are now brought fresh to London, and are now sold as commonly as dried Turkey fruits were thirty years ago. The European steamers bring oranges, lemons, grapes, melons, apples, cherries, currants, peas, potatoes, vegetables, poultry, butter, eggs, and live cattle. The shore steamers bring all kinds of produce from the furthest parts of Scotland and Ireland to London.

London is now yearly visited by the French and High Dutch, while it can communicate within three hours with Paris and Lyons, and within six with Brussels and the Rhine, and travellers reach these places within the compass of a day.

The extension of steam communication by large ocean steamers, and of trade, has caused many important improvements. The docks of Liverpool* have been enlarged and a new dock and town formed on the other shore of the Mersey at Birkenhead. At Hull*, a new dock has been formed; the up ports of Goole and Gainsborough have been improved; and Great Grimsby* is provided with large dock accommodation. Bristol* has enlarged docks, so as to admit large steamers. At Plymouth*, the government have formed a large steam-dock; and a private company commercial docks.

Southampton*, has docks on a large scale, made since that town has become the seat of ocean steam navigation to the East and West Indies. The government have steam-docks and repairing establishments at Woolwich*, Portsmouth*, and Plymouth. Holyhead* harbour has been enlarged since the opening of the London, Chester and Holyhead Railway. Dover has been made a harbour of refuge. Sunderland, Cardiff, Middlesborough, and Seaham are collier ports, with docks made to accommodate the increasing coal trade. By improvements, the inland towns of Manchester, Gloucester, Exeter, Preston, Gainsborough, and Wisbeach, have been made the seats of considerable sea trade, so that Manchester is now the sixth port in England for customs receipts, Gloucester the seventh, and Exeter the ninth. Middlesborough-on-Tees, Fleetwood-on-Wyre, Sutton Bridge, and Seaham, are new seaports which have been formed of late years. In 1831, Middlesborough consisted only only of a few farm houses and cottages with 383 people; in 1841, it had 5566 people, a dock, foundries, pottery, and railway terminus. In 1836, the ground of Fleetwood was a rabbit warren. In 1841, it had 2000 people, and now has a dock, lighthouse, warehouses, college, steamers to Ireland, Scotland, and Man, and a railway terminus. The land around Sutton Bridge has, within a few years, been reclaimed from the sea of the Wash, and now there are 1000 people and considerable trade. Seaham has been made by the Marquis of Londonderry, and in 1841 there were 1000 people there, with a good harbour. At Portland, a breakwater and harbour of refuge were begun in 1848, with labour from a large convict establishment formed near there. Folkstone has been improved and made a steam station to Boulogne. Harwich, Lytham, and Lowestoft, have been improved, and a traffic created at the Piel of Foudrey in Morecambe Bay.

Many jetties and piers for steam communication have been formed on the shores and in the rivers.

Taxation.

The taxation is heavy, and is raised

* These, with London, have large steam-docks, so as to admit ocean steamers, and London, Liverpool, Newcastle, Plymouth, Portsmouth, and Southampton, have repairing establishments.

mostly by the Imperial Parliament, but partly by the Poor Law Commissioners, County General Sessions, Municipal Corporations, Tithe Owners, Church Vestries, Trinity Board, Harbour Commissioners, Law Officers, and various local authorities.

The taxation of England is above 60,000,000*l.* yearly.

The whole amount of taxation cannot be stated, as no proper accounts are kept or published by the Government, those published having many irregularities and suppressions.

After being reduced in 1833 to 45,782,026*l.*, and although the interest on the debt has not increased, the imperial taxation for the United Kingdom was, in 1847 and in 1849, 54,000,000*l.*

This taxation is raised indirectly by customs, excise, and stamps, and directly by taxation of land and revenue. The people of Ireland are not directly taxed, and pay only partial excise and stamp duties. By the establishment of the property and income tax an attempt has been made to increase "direct" taxation, and to relieve the less wealthy classes from their heavier share of "indirect" taxation.

The taxation by customs duties in 1847 was 21,824,010*l.*, by excises 13,919,651*l.*, by stamps 7,671,324*l.*, by land and assessed taxes 4,553,860*l.*, by property and income tax 5,612,654*l.*, by post office 2,181,016*l.*, by crown lands 430,763*l.*, by surplus fees 106,880*l.*, by East India Company repayments 60,000*l.*

The amount of the funded debt on Jan. 5, 1849, was 774,022,638*l.*, mostly at 3 per cent., but 248,294,229*l.* at 3¼ per cent. The unfunded debt, or Exchequer Bills in circulation, were 36,257,200*l.* In 1847, 8,000,000*l.* was added to the debt, being raised for the relief of the Irish. The interest on the debt was 23,978,113*l.* The amount (for which there is no capital owing) of long, short, and life annuities and tontines, 3,846,090*l.* Of the latter charges 1,393,758*l.* will fall in in 1860. The whole yearly charge for the debt was 27,699,740*l.*

The debt is now only reduced by the application of surplus income and the grant of annuities, as when the interest is reduced no reserve is made to pay off the capital, and there is no appropriation of probate and legacy duties on real and personal property to constitute a sinking fund. In 1816 the interest on the debt was 32,938,751*l.* From 1816 to 1847 the sums applied for the reduction of the debt have been 70,303,541*l.*, but 52,000,000*l.* have been raised by fresh loans, therefore the real decrease of the debt is only by the conversion of capital into terminable annuities. The stock converted into terminable annuities in 1845 was 886,882*l.* for 74,178*l.* yearly; 1846, 701,084*l.* for 65,808*l.*; 1847, 462,825*l.* for 40,513*l.*

The Imperial Government have never a year's or quarter's income in hand, but borrow money for their current purposes on Exchequer Bills, by which a considerable yearly charge is incurred, and much inconvenience caused. In many years the expenditure is more than the income.

The lowest amounts for customs and excise since 1815 are, 1817, 32,741,687*l.*; 1831, 32,819,296*l.*; 1833, 32,752,652*l.*: the highest—1821, 38,765,814*l.*; 1824, 38,095,751*l.* The lowest stamps 1819–20–1–2–3, 6,513,599*l.*: the highest—1825, 7,447,924*l.*; 1845, 7,710,683*l.* The lowest taxes 1835–6–7–8–9–40, 3,654,819*l.*; the highest 1843–4–5–6–7–8–9, 10,166,515*l.*

The Customs duties are now raised mostly on certain articles of large import, articles of small import being, so far as possible, relieved from duty, so that trade is thereby facilitated. Grain and flour pay no duty, nor do raw materials of manufacture, except timber. Of 21,824,381*l.*, in 1847, 17,496,994*l.* were raised from England and Wales.

Tea paid 5,066,494*l.*, sugar and molasses 4,494,651*l.*, tobacco 4,265,702*l.*, wine and spirits 4,213,252*l.*, coffee 746,436*l.*, fruits 570,213*l.*, spices 104,870*l.*, provisions 274,502*l.*, silk goods 217,613*l.*, timber 974,299*l.*

The customs duties paid at the chief harbours are as follows:—[1] London, 10,663,159*l.*; [2] Liverpool, 3,230,921*l.*; [3] Bristol, 1,004,789*l.*; [4] Newcastle, 440,069*l.*; [5] Hull, 433,755*l.*; [6] *Manchester*, 177,417*l.* (1845, 70,321*l.*); [7] Gloucester, 93,211*l.*; [8] Chester, 90,231*l.*; [9] Plymouth, 101,716*l.*; [10] Exeter, 90,595*l.*; [11] Preston, Lytham, and Fleetwood, 77,213*l.*; [12] Stockton, 77,937*l.*; [13] Sunderland, 77,038*l.*; [14] Whitehaven, 73,785*l.*; [15] *Grimsby*, 70,692*l.* (1845, 11,209*l.*); [16] Gainsborough, 58,984*l.*; [17] Southampton, 52,789*l.*; [18] Yarmouth, 52,233*l.*; [19] Carlisle, 48,962*l.*; [20] Lynn, 47,498*l.*; [21] Swansea, 37,672*l.*; [22] Boston, 40,555*l.*; [23] Lancaster, 32,658*l.*; [24] Ipswich, 30,406*l.*; [25] *Wisbeach*, 25,244*l.* (1845, 7211*l.*); Dover, 21,681*l.*; Ber-

wick, 17,186*l.*; Goole, 18,269*l.* (1845, 44,919*l.*); Truro, 18,174*l.*; Whitby, 12,870*l.*; Rochester, 12,021*l.*; Shoreham and Brighton, 16,266*l.*; Penzance, 12,698*l.*; Chepstow, 10,888*l.*; Colchester. 12,043*l.*; Falmouth, 11,542*l.*; Barnstaple, 6263*l.*; Maryport, 7939*l.*; Newhaven and Brighton, 7962*l.* (1845, 16,248*l.*); Weymouth, 10,108*l.*; Poole, 6674*l.*; Ramsgate and Margate, 5935*l.* (1846, 10,043*l.*); Rye, 5158*l.*; Dartmouth, 4215*l.*; Scarborough, 3916*l.*

The excises in England are, on malt, 30,269,963 bushels, 4,105,363*l.* (1846, 4,845,050*l.*); hops, 45,134,367 lbs., 394,923*l.*; spirits, 8,409,165 gallons, 3,293,589*l.* (1845, 3,554,915*l.*); soap, 157,160,793 lbs., 1,012,091*l.* (1845, 172,248,249 lbs.); paper, 92,851,153 lbs., 609,335*l.*; bricks 2,193,829,491, 672,781*l.*; hired horses, 138,271*l.* (1845, 154,350*l.*); stage coaches, 92,378*l.*; hackney coaches, 92,378*l.*; railway passengers, 62,168*l.*

The rest of the excise is from licences. Auctioneers 3384; brewers, 42,073; beer sellers, 99,083; spirit dealers, 57,619; maltsters, 7888; retailers of sweets, 4909; wine dealers, 25,178; letters of horses for hire, 20,678; tea and coffee dealers, 95,300; tobacco and snuff dealers, 174,822; stage coach masters, 3083.

Brewers' licences pay 73,442*l.*; beer licences, 230,815*l.*; spirit licences, 298,792*l.*; wine licences, 68,192*l.*

The excise has lately been taken off glass, but the manufacturers of paper, bricks, and soap, are still embarrassed by the excise.

The stamp duties are—on fire insurance, 1,003,138*l.*; marine insurance, 160,949*l.*; deeds and conveyances, 1,733,303*l.*; probates of wills, 978,820*l.*; legacies, 1,174,436*l.*; stage coaches, 254,908*l.*; hackney coaches, 46,095*l.*; bills of exchange, 430,649*l.*; receipts, 157,230*l.*; newspapers, 281,338*l.*; advertisements, 133,567*l.*; bank note issues, 40,161*l.*; gold plate made, 6425*l.*; silver plate made, 75,702*l.*; patent medicines, 32,342*l.*; licences, 177,245*l.*, namely, attorneys (10,072) 88,980*l.*, banks (615) 18,570*l.*, pawnbrokers (1722) 15,585*l.*, hawkers and pedlars (5886) 23,544*l.*, plate dealers (4333) 13,808*l.*, quack medicine sellers 7463*l.*; London cabdrivers (10,292) 2,573*l.*

The taxes* are the remains of the land tax, 1,154,746*l.* Parties have been allowed to compound for this by paying a specified amount of stock for the yearly charge. The window tax was 1,663,320*l.* (England, 1,589,281*l.*); male servants, 209,164*l.*; private carriages, 259,053*l.*; hired carriages, 169,686*l.*; horses, 385,668*l.*; dogs, 150,629*l.*; horse dealers, 19,455*l.*; armorial bearings, 70,523*l.*; certificates for leave to shoot game, 156,187*l.*

Houses having less than eight windows do not pay tax, but nevertheless the injury to health is very great, and many trades are affected, as the glass trade, the supply of pictures, engravings, and the higher works of arts and industry. Coachmakers suffer from the carriage tax; able-bodied men from being kept out of employment by the tax on servants (the number of such servants kept in Ireland is more, in proportion, than in England).

The Post Office revenue does not properly form a subject of taxation, nor does it now contribute to the general revenue, as it is applied in carrying on the service at home and maintaining steamers for carrying the mails abroad.

The chief receipts for postage in 1847 were—[1] London, 888,948*l.*;† [2] Liverpool, 69,627*l.*; [3] Manchester, 48,747*l.*; [4] Birmingham, 23,464*l.*; [5] Bristol, 21,184*l.*; [6] Leeds, 15,580*l.*; [7] Hull, 12,928*l.*; [8] Sheffield, 9345*l.*; [9] Norwich, 7037*l.*; [10] Nottingham, 5326*l.*; [11] Leicester, 4280*l.*; [12] Preston, 3880*l.*; [13] Potteries, 3392*l.*

Through the exertions of Rowland Hill, a system of prepaid stamping and a uniform postage has increased materially the correspondence of the country, and abolished the practice of franking enjoyed by members of Parliament. The Post Office is now a great banking establishment for transmitting small sums by money orders. It likewise carries small parcels and pamphlets.

Of the imperial expenditure, 27,753,663*l.* was for charges of the debt. The allowance to the Queen, or Civil List, but including pensions to meritorious individuals, was 393,982*l.* The courts of justice cost 1,046,593*l.*; the army, 7,540,404*l.*; navy, 8,013,873*l.*; ordnance, 2,047,869*l.*; miscellaneous, 3,871,144*l.* Of the allowance for the army, navy, and ordnance, but little is spent in England, except for stores, dockyards, and pensions; it is mainly spent in Ireland and the settlements abroad, and on the African slave coast. Part of the navy is required for the protection of trade.

In 1845 the miscellaneous expendi-

* These returns are from Great Britain.

† District post, 295,245*l.*

ture was—public works and buildings, including Westminster Palace and the British Museum, but not including dockyards and barracks, 372,928*l.*; general government, 754,304*l.*; law and police, 653,144*l.*, besides local taxation; education, science, and art, 288,176*l.*; colonial and consular services, 292,025*l.*

In 1835 there were employed 10,477 customs officers, 7928 excise officers, besides tax gatherers, post masters and letter carriers, dockyard labourers, lawyers, and policemen.

Of late years the number of paid officers of all kinds has much increased, as the English unpaid officers have been done away with, and paid lawyers and others put in their places.

The poor rates, although increased by the swarms of Irish since the great famine, are much below what they were formerly; but there is an increased expenditure for county rates. In most shires there is an organized police, as well as in all the great towns; there are lunatic asylums for the poor in which a more careful treatment has replaced moral restraint; there are enlarged gaols providing for separate confinement of prisoners. The municipal corporations in some cases provide libraries, museums, baths and washhouses, and take charge of the supply of gas and water. In the towns there has been an increased outlay for sewage, consequent on the cholera in 1849, when engineering and medical offices of health were appointed. The tithes have been commuted in most parishes for a rent. The Trinity Board and the Harbour Commissioners have reduced their rates and have set up many new lighthouses and beacons. In these improvements have been made, by the use of iron, Potts's hydraulic piles and Mitchell's screw piles. The fees in the law courts constitute a heavy tax, but the amount is not known.

The poor and county rates are about 7,000,000*l.* yearly, which is besides borough rates. The expenditure of the counties in 1845 was—gaols, 294,217*l.*; prosecutions, 214,079*l.*; bridges, 58,206*l.*; coroners, 51,843*l.*; police, 164,129*l.*

Altogether the local taxation of England is 20,000,000*l.*, which, added to 17,496,994*l.*, customs; 11,300,298*l.*, excise; 6,701,638*l.*, stamps; 5,000,000*l.*, property and income tax; 1,154,745*l.*, land tax; 1,589,281*l.*, window tax; and 1,000,000*l.*, assessed taxes, make altogether about 60,000,000*l.* paid yearly by England for taxation, without reckoning the property of the nation available for the maintenance of the church, endowed schools, hospitals, and other charities, and exclusive of money paid to lawyers. The whole sum applied yearly for the purposes of the community is therefore very large, greater than in any other country, and not less than 4*l.* per head of the population.

PROGRESS OF THE COUNTRY.

In consequence of the increase of the country in wealth and population, the large towns have increased, and many changes have been made in them, which may usefully be recorded here.

London is the most remarkable instance of this advance. In 1850 its population approached two millions and a quarter, being a vast nation gathered together on a small spot, and reaching into the four shires of Middlesex, East Surrey, West Kent, and Essex, each formerly an independent commonwealth. The length is not less than ten miles, nor the breadth less than seven.

The streets (see p. 134) have been improved by the extensions of Piccadilly, Oxford Street, St. Martin's Lane, and Thames Street, the formation of Moorgate Street, Gresham Street, New Farringdon Street, Commercial Street, the street in Pimlico, and the grand line from St. George's Fields to the Hampstead Road. Some of these new lines, as Gresham Street, and St. George's, and Hampstead, lay open a number of public buildings, and are equal to any great streets in the world. All the new streets have many new and decorated houses, and in the public buildings stone is used instead of stucco, sometimes coloured or ornamented brick, with stone dressings. Some large private houses, as those of the Earl of Ellesmere and Mr. H. T. Hope, are of stone, handsomely carved, and the latter has coloured marbles in front.

Many new squares and places have been formed, mostly in the suburbs, but there may be noticed—Trafalgar Square with the National Gallery, Northumberland House, College of Physicians, St. Martin's Church, Nelson Column, George IV.'s statue, and fountains; the Mansion House opening with Bank, Royal Exchange, and Wellington statue; King William Street opening with statue of William IV.; Cockspur Street opening with statue of George III.

The Strand Bridge is a suspension foot bridge, by I. K. Brunel, from Hungerford Market to the Surrey shore and

is the centre of a cheap steam-boat traffic. These water omnibuses have in the summer time a great traffic. Passengers are carried from London Bridge to the Adelphi for a halfpenny, and to Gravesend for sixpence. Many hawkers and costermongers avail themselves of the penny boats to extend their business, in some cases visiting Billingsgate, Hungerford, or Covent Garden twice a day for the supply of the suburbs. In consequence of the penny boats, twopenny omnibuses run in communication with them; and for three pence a passenger may be carried from London Bridge to St. John's Wood, or from Pimlico to Whitechapel. Steam-boat piers have been set up on the bridges and along the Thames shore; but there is little travelling at night, as the river is not lighted.

The Thames Tunnel (p. 140), has been for some years open to foot passengers, but is of no use except for show.

Buckingham Palace (p. 136), after being finished, was enlarged in 1848 by an unsightly addition. The long armoury in the Tower (p. 139) was burnt down, but a new armoury has been built, and the appearance of the building much improved.

Many old buildings have been restored: Westminster Abbey, Westminster Hall, and Guildhall partially; but the Temple Church, the Savoy Church. St. Saviour's, and Crosby Hall completely. St. Bartholomew's the Great, Allhallow's (Barking), St. Catherine Creed Church, St. Andrew Undershaft, Ely Chapel, St. John's Gate, Gerard's Hall, the Roman Baths, and many other ancient monuments have been, to a great extent, restored or repaired. Lambeth Palace has been enlarged.

The new buildings are most numerous. In place of the old Houses of Parliament (p. 136) a palace at Westminster is in progress, in the Tudor style, under Barry, which provides for the restoration of Westminster Hall and St. Stephen's Chapel, the construction of a magnificent House of Lords, a high Victoria Tower, and a National Gallery of historical art. For promoting the decoration of this building, exhibitions were held in Westminster Hall of fresco paintings, oil paintings, cartoons, sculpture, stone and wood carving, and stained glass, and of which the palace has now some meritorious works. The House of Lords was opened in 1848.

The new Royal Exchange (p. 138) is a highly-decorated building, and is in a situation open and unencumbered. In Lloyd's Rooms, over it, is some sculpture.

The British Museum (p. 142) was, by the end of 1849, rebuilt, but still too small. A long range of columns in front, a painted hall and staircase, and an open square in the middle, are the chief features.

Soane's, Privy Council Office (p. 136) and College of Surgeons have been enlarged and refronted by Barry.

The National Gallery, by Wilkin, is on a fine square and raised terrace, but is cramped for room inside. It provides for the National Gallery, Vernon Gallery, and Royal Academy (pp. 137 and 142), with their exhibitions and schools.

The Hall of Commerce, in Threadneedle Street and Broad Street, is remarkable as the effort of a private individual, the late Mr. Moxhay, to improve architectural taste.

The Coal Exchange in Thames Street, by Bunning, opened in 1849, has an interior of ornamental cast iron, an inlaid wood floor, and some fresco decorations.

The Museum of Economic Geology, in Piccadilly, was completed in 1850.

Goldsmiths' Hall is a handsome building in Gresham Street.

The Temple, Gray's Inn, Lincoln's Inn, and the Inns of Chancery, have many new buildings, and have improved their halls, libraries, and chapels. Lincoln's Inn Hall is a large building of ornamented brick, overlooking Lincoln's Inn Fields, in which the other public buildings are the College of Surgeons and Soane Museum.

Besides these, many other buildings have been raised of late, which will be afterwards mentioned.

Not only have the materials for building been of a better character, but more care is taken in the outward and inward decoration. Fresco or other paintings have been introduced in Westminster Palace, the Reform and other clubs, the Exchanges, British Museum, and other buildings; and by the removal of the glass duties there are now better windows and more framed engravings. Paper hanging, painting, furnishing, and all kinds of internal decoration have been improved through the schools of design. Barry, Hardwick, Sydney Smirke, Cockerell, and Decimus Burton have erected some great works. The pseudo-Greek style went out of favour after the time of George IV., and the styles most prevalent in the Victorian age have been the medieval and the

Italian. In the former the churches, in the latter the clubs and commercial edifices, are built.

The institutions for the promotion of science and art have greatly increased. The public museums in 1850 included the British, East India, Soane, George the Third's (King's College), Economic Geology, Guildhall, Woolwich, Somerset House, and Tower; the galleries, the National and Vernon, St. James's Palace, Dulwich, and Greenwich. There are anatomical museums in the medical and veterinary colleges and schools. At Kew are the botanic gardens, hothouse, and museum of economic botany; at Chelsea, the medical botanic garden. In the parks and Kensington Gardens the trees and plants are labelled so as to give the use of an arboretum and botanical garden. In St. James's Park is a collection of water fowl. Besides these institutions, which are more or less free to the public, are the Gardens of the Zoological (Regent's Park), Surrey Zoological, Royal Botanic (Regent's Park), and Horticultural (Chiswick), Societies, and the Museums of the Royal Asiatic, United Service, Geological, and Polytechnic, Institutions, accessible to the public at a low charge, or by ticket. Occasional national exhibitions of fresco or other paintings, of the Art Union, Free Gallery, and School of Design are open free; and there are, at low prices, yearly exhibitions of the Royal Academy, Society of British Artists, British Institution (old paintings, and new), Free Gallery of Art, the three Water Colour, and Architectural, Societies, and of a Modern-Master (Society of Arts), as well as of exhibitions of arts and manufactures, and of agricultural stock. The galleries of many of the private patrons of art are either open to applicants, or the pictures are lent to the public exhibitions, from time to time. The visitors to the British Museum, in 1846, were 750,601.

Sir John Soane, Mr. Vernon, and Mr. Grenville have been donors to the public of large and valuable collections.

The libraries are those of the British Museum, East India, Soane, Sion College, Guildhall, St. Martin's, Lambeth Palace, Dr. Williams', Congregational, St. Paul's, Westminster Abbey, those of the law institutions, the colleges, the learned societies, the clubs, the literary scientific and mechanics' institutions. These are numerous and large, and have written, where not printed, catalogues. Few of them are free, but the price for having books lent out is moderate, and is from a shilling a quarter upwards. London is very rich in records in the Record offices, British Museum, Heralds' College, Registrar General's Office, and Museum of Economic Geology.

Whether for museums or libraries, no city in the world is so well provided as London.

Superior instruction has now much better provision in London. It is the seat of a university, conferring degrees on the members of all colleges throughout the English empire, which are authorized, as nearly all the London colleges are. In their several branches other university bodies confer diplomas and degrees for clergymen, barristers, attorneys, proctors, physicians, surgeons, veterinarists, pharmaceutical chemists, and heralds. There are faculties of arts, medicine, law, engineering, and theology; colleges and schools for the old classic and modern languages (5), Indian languages, Hebrew (3), medicine (11), pharmacy, chemistry (17), botany, veterinary art (1), law (4), civil engineering (3), military engineering (3), geology and metallurgy (3), music (1), fine arts (2), for teaching schoolmasters (3), school mistresses (4), Episcopalian theology (1), Baptist theology, Independent theology, Jewish theology.

The chief colleges are—University College (formerly the London University, p. 144), King's College, St. Bartholomew's College, St. Thomas's College, Putney College, the Royal Veterinary College, and the Royal Academy. There are colleges for schoolmasters (Preceptors) and ladies, normal schools (3), special schools for the arts of design (2), singing, navigation, the blind, the deaf and dumb, idiots, Welsh, Jews, Germans, French, and Italians.

In addition to the old hospitals (p. 144) are, King's College, Marylebone, German, Consumption, and Free Hospitals, one in Marylebone Workhouse, an East Middlesex Lunatic Asylum, and smaller hospitals for women, for fistula, skin diseases, and malformations.

A great model penitentiary for separate confinement of convicts has been built at Pentonville, and a new city jail at Holloway. The Fleet Prison (p. 144) has been pulled down.

Covent Garden Theatre was reconstructed by B. Albano, in 1849, as an opera house, and is one of the finest works of the kind. The Princess's Theatre, in Oxford Street, and the

Prince's, or St. James's Theatre, are new theatres, but most of the other theatres have been re-decorated in new styles, and with better taste. The Colosseum (p. 146) has been lately enlarged and decorated, and a fine hall of sculpture, called the Glyptotheca, formed.

In one season there have been, in London, two Italian operas, a High Dutch opera, French opera, tragedy, comedy, melodrama, and horsemanship.

By an alteration in the licensing act small theatres or saloons are allowed to be attached to some of the taverns; and in these operatic and melodramatic performances are held. These are besides the twenty special theatres. The taste for the higher drama has not been gratified, from many causes, and the entertainments have therefore partaken more of opera, ballet, and horsemanship, in which even the smallest theatres have shared. The practice of music has been thereby greatly promoted, and the establishment by Hullah and Mainzer of singing classes for secular and church music throughout the country has no less contributed. A large hall in Exeter Hall, and a singing school in Long Acre, besides the old concert rooms, are devoted to great public concerts and celebrations. Fairs are nearly extinct.

The Victoria Park at Bethnal Green has been opened, one at Battersea is in progress, Primrose Hill, with a public gymnasium, has been added to the Regent's Park (p. 145); likewise the Royal Botanic Gardens. Here, too, is the private observatory of Mr. Bishop, from which two planets were discovered.

The railway stations are important features in the additions to London. That of the London and North Western at Euston Square has some colossal works, a fine archway, and a grand hall. The clubs in the neighbourhood of Pall Mall form a succession of palaces, among the newer of which may be named the Reform, Conservative, Army and Navy, and Carlton. The Banks and Assurance Offices are now works of architectural importance, as the London and Westminster and Commercial Banks, the Sun, Imperial, Law, and Globe Assurance Offices. In many of the commercial establishments a greater degree of attention has been shown to architectural propriety.

Many churches have been built throughout London, in various medieval styles. St. George's Roman Catholic Church is a work by Pugin, which is proposed to be of a high class. The dissenting chapels are of a more ornamental character. There are nearly 400 episcopal churches and chapels, and 300 other places of worship, including those for Roman Catholics, Greeks, Russian Greeks, Unitarians, Baptists, Presbyterians, Independents, Quakers, Moravians, Methodists, Swedenborgians, and Mormonites, for Hebrews, Greeks, Russians, High Dutch, Hollanders, Swedes, Danes, Flemings, Welsh, Irish, French, Spaniards, and Deaf and Dumb.

The union houses, baths and wash-houses, model lodging-houses, police offices, and county courts are among the smaller public buildings erected.

The public cemeteries were begun in 1839, and there are several in picturesque situations, or in themselves possessing interest from monumental works, which show improved execution, as Kensall Green, Highgate, Nunhead, Brompton, Abney Park, and Norwood.

The municipal government of the "City" is wholly in the hands of the people. In Marylebone, St. Pancras, and Lambeth, and some smaller parishes, the vestries exercise many municipal functions. The guardians of the poor, and paving boards' law unions, are likewise named by the people. The chief municipal functions are, however, taken into the hands of government boards, as the Commissioners of Sewers, Police, Turnpike Roads, and of Health, except those which are exercised by the county magistrates in their general sessions. London is now the only large town in England in which the people do not exercise the whole municipal government.

The metropolitan police, in 1847, were 5075, and cost 330,000*l.*; and the city police were 574. There is a body of firemen and engines maintained by the fire-assurance companies; and there is a fire-escape police. The sewers, except the city (where there are forty-seven miles under the corporation), are managed by a single government commission, set up in 1848. Of late years the Thames has been poisoned by sewage poured into it, and no means for saving the manure wasted (which is enough to grow food for two millions of people) have yet been taken. Wholesome water is wanted for the people; and though many Artesian wells have been sunk, the supply from that source seems to be trifling, and it is necessary to deepen the wells. In 1849, gas, which had been at an exorbitant price was, in

some parts of London, lowered to 4s. per thousand cubic feet.

London is a great seat of trade and manufactures. According to the Post Office Directory there were, in 1845, employed in [1] Millinery, 40,282 persons; [2] Clothes and Slops, 28,848; [3] Boots and Shoes, 28,574; [4] *Books, Prints, Maps,* and *Music*, 14,563 (being one-third of the trade in Great Britain); [5] *Silk*, 14,563 (Gt. Brit., 56,000); [6] *Cabinet-making* and *Upholstery*, 12,419 (one-third of Gt. Brit.).

The second class of trades were—[7] *Painting, Sculpture,* and *Works of Art* 5787 (besides 500 students in the Royal Academy, and those in the Schools of Design); [8] Machinery and Millwork, 5615; [9] *Plate* and *Jewellery*, 5561 (Gt. Brit., 10,000); [10] *Coach-building*, 4434 (Gt. Brit., 12,603); [11] *Ship-building*, &c., 6305; [12] *Watch and Clock-making*, 4290 (Gt. Brit., 14,779); [13] *Coopering*, 4002; [14] Leather, 3932; [15] Brass working, 3591; [16] Hat making, 3506 (Gt. Brit., 18,012).

The third class of trades are—*Saddlery*, 2626; Cartmaking, 2635; *Carving and Gilding*, 2181; *Brushes* and *Brooms*, 2155; *Pianos, Organs,* and *Musical Instruments*, 1886; Tin-plate working, 1419; *Toys*, 1298; *Brewing*, 1274; Rope, 1262; *Fur*, 1236 (Gt. Brit., 1890); Glass, 1230; Iron, 1176; Wax and Tallow, 1130; Fire-arms, 1113; *Mathematical Instruments*, 1076; *Artificial Flowers*, 1025 (Gt. Brit., 1138); Packing Cases, 1024; *Stained Paper*, 966 (Gt. Brit., 1367); Cutlery, 905; Baskets, 881; Bricks and Tiles, 840; *Umbrellas*, 831 (Gt. Brit., 1953); *Sail making*, 713 (Gt. Brit., 3883); *Sugar-refining*, 645 (Gt. Brit., 1082); Paper making, 625; Chemicals, Dyes, Colours, Varnishes, and Drugs, 617; *Cork cutting*, 576 (Gt. Brit., 1910).

Among the manufactures of which the chief seat is in London or its neighbourhood, besides those already marked by italics, are—Bell-founding; British Wines, 501; Blacking; Cane-working, 124; Card and Pasteboard; Chair-making, 1700; Chocolate; Coffee-roasting, 90; Combs, 464; Rectifying and Distilling; Electro-plating; Feather-dressing; Felting; Fireworks; Floorcloths, 178; Fringes and Tassels, 461; Gold Lace, 89; Gold-beating, 378; Glue; Gutta Percha; Hair, 367; India Rubber, 118; Ink; Ivory, 311; Lasts, 163; Manures; Medicines; Music-strings, 43; Mustard; Parchment and Vellum; Pencils, 158; Perfumery; Pewter, 240; Quill Pens, 155; Pocket-books, 220; Portmanteaus, Trunks, and Carpet Bags; Sago and Arrowroot; Sealing Wax, 49; Soap; Starch; Mens' Stocks; Surgical Instruments; Tobacco, Snuff, and Cigars; Tobacco Pipes; Type-founding, 452; Vinegar; Wax Chandlery, 155; Willow-working, 193; Whips; Watch Glasses; White Lead; Whiting; Wigs; Wire and Zinc-working.

The manufactures of cutlery, guns, gloves, tools, and gas-fittings, have considerable reputation. There is some small work in shawls, crape, hemp, canvass, lint, thread, lace, net, cotton (1270), cotton-printing, tape, stay-lace, braid, coach-lace, candle-wick, gimp, wadding, ticking, muslin, straw-plaiting, rush-working, gauze, ribbon, velvet, woollen, worsted, carpet, table-cover, flock, horse-hair; in jewel and gem-setting, crucibles, filters, spectacle-glasses; files, saws, vices, pins, needles, thimbles, buttons, tea-urns; spangles, tinfoil, accoutrement-making; platinum, antimony, black-lead, cement, plaster; pearl-barley, yeast, ginger-beer, &c., spruce, capillaire, soda, stone-blue, leather-dyeing, shagreen, fishing-tackle, fans, buhl, beads, whalebone, coral, and jet.

The Provision trades employ 52,761 people (bakers, 9110; butchers, 6450; fishmongers, 1866; grocers, 4986; buttermen, 1732; publicans, 6061; milkmen, 2764). The Clothing and Leather trades, 126,508 people (tailors, 23,517; shoemakers, 28,574; drapers, 3913; dressmakers and seamstresses, 27,049; bonnetmakers, 3282). The Spinning, Braiding, Platting, and Weaving trades, 27,960. The Building and Furnishing trades, 85,292 (carpenters and joiners, 18,321; bricklayers, 6743; painters, plumbers, and glaziers, 11,507; masons, 3471; sawyers, 2978). The Metal trades and manufactures, 33,308 (smiths, 7481). The Carrying and Shipping trades employ 52,660 people. There are 28,318 professional persons (schoolmasters and teachers, 9244; ecclesiastics, 1271; medical men, 4972; lawyers, 2300; engineers, architects, and surveyors, 1379; artists, 4431; accountants, 1108). 19,240 public servants, policemen, and soldiers; 8389 commercial agents (3904 merchants; 851 auctioneers; 1017 pawnbrokers); 20,982 clerks; 50,279 labourers; 39,300 male servants; 138,917 female servants and nurses.

In 1847 the supply of coals was 3,302,425 tons; of grain, by sea, 3,762,463 quarters; of flour, by sea,

255,905 sacks, and 767,828 barrels; but London is the seat of the corn trade. In 1846, the beasts sold in Smithfield were 199,875; the sheep, 1,458,820 (1844, 1,609,130); the calves, 19,864.

The whole number of persons taken into custody by the Metropolitan Police in 1846 was 62,834 (males 42,269, females 20,565); of whom about half for drunkenness, disorderliness, and vagrancy; 9327 for assaults; 14,766 for stealing; 3148 for wilful damage. 5112 were committed for trial. Of those taken into custody, 22,223 could neither read nor write; 35,470 could read, or read and write imperfectly; 4632 could read and write well; and 509 had superior instruction. Of those tried and convicted, only 239 could read and write well, and only 17 had superior instruction.

The number of persons (children mostly), reported to the police as lost or missing, was 2489; found by the police, 1082; suicides committed, 162; attempted, 111; number of fires, 483.

Liverpool has grown with the growth of the cotton trade. It has rivals in Birkenhead and its other suburbs on the Cheshire side of the Mersey. It has become the seat of the North American Ocean navigation, and of emigration to North America. It is the seat of assizes, and of a district bankruptcy court. The Custom House, in which are the other public offices, is 466 feet in length. The Assize Courts and St. George's Hall form a magnificent stone building, in the Corinthian style, 400 feet long. The number of churches and chapels of the Establishment is about 50, besides as many belonging to other persuasions. The Sailor's Home was opened in 1846. Besides the grammar schools in the Royal and Mechanics' Institutions is one in a large Elizabethan building, called the Collegiate Institution, opened in 1843. The markets are among the best built in England. The commercial buildings, as the Branch Bank of England, Royal Bank, Union Bank, and Royal Insurance Offices, are favourable specimens of modern architecture. St. George's Hall and the new Philharmonic Hall afford vast concert rooms; and there are three theatres, and, besides the Botanic Garden, a Zoological Garden in Derby Road. There is a medical school, academy and exhibitions of art; a school of design, and architectural societies. Liverpool stands next to London for promotion of the fine arts, and many works are sent to the colonies. The railway stations are on a great scale. In 1846 the import of cotton was 1,088,215 bales. The dock space is above 100 acres, and the quay length above 10 miles, without reckoning Birkenhead, where is a floating dock of 150 acres. In 1847 the Liverpool dock receipts were 244,435*l.* on 20,889 ships, making 3,351,539 tons. In 1845 the number of emigrants shipping at Liverpool was 75,564.

Birkenhead has handsome squares, buildings, a market, and model lodging-houses.

Manchester has become the seat of a bishopric (1848), and a bankruptcy court. In High Street, Salford, is a handsome Roman Catholic cathedral. The Unitarians have a large chapel, by Barry. The new churches in Cheetham, Birch, Longsight, and Platt, have merit. Manchester has a medical school, Independent College, and Wesleyan Theological Institution, of which the two latter are handsome buildings. There is an exhibition of art, a school of design, and an architectural society. The Free Trade Hall is a large hall for public meetings. A great improvement at Manchester has been the formation of Queen's Park, Peel Park, Phillips' Park, Victoria Park, the Zoological and Botanical Gardens and Cemeteries. Manchester now carries on a foreign trade by sea, and has bonded warehouses (pp. 517, 518).

Leeds (p. 401) has a central railway station, built in 1849, for seven railways; six bridges over the Aire; a new jail, built in 1847 at a cost of 43,000*l.*; a new mother-church, re-built, in 1840, in place of that of St. Peter; and other new churches; a new Unitarian chapel, 1848; an industrial school at Burmantofts, 300 feet long, opened in 1848; a medical school; exhibition of fine arts; and bankruptcy court.

Birmingham (p. 317) is the seat of a bankruptcy court; Queen's College for medicine, arts, and engineering; Roman Catholic College (Oscott); Independent College (Springhill); Roman Catholic bishop; academy and exhibition of arts, art union; school of design; and institution of Mechanical Engineers. It has a great railway station; a handsome Roman Catholic cathedral in Bath Street (by Pugin, in 1841); a fine Gothic building for Queen's College, with museum and good endowments; Queen's Hospital, begun in 1841. There are a Pathological Society, Polytechnic

Institution, and good libraries of science, law, medicine, and theology.

The chief trades of Birmingham in 1841 were—brass-working, employing 3667 persons; ironmongery and hardware, 3000; buttons, 3000; jewellery, plate, and plated ware, 2700; fire-arms, 2400; steel, and other small articles, called "toys," 2300; boots and shoes, 2184; dressmaking, 2000; glass, 1300; tools, 1100; plated ware, 100; pearl-working, 980; steel pens, 300; fire-irons, 300; watches, 250; wire-working, 240; pottery, 300; pins, 120; tea trays, 114; combs, 110.

SHEFFIELD (p. 407) has added to its former establishments new churches, railway stations, a People's College for giving cheap instruction to the working classes, a medical school, and a park.

BRISTOL (p. 268) has become the seat of a court of bankruptcy and medical college, and is a bonding port. The residence of the bishop is removed to Gloster, but the cathedral is kept up. St. Mary, Redcliffe, has been restored. There are 30 churches, and 40 other places of worship. The Great Western Station is in the Gothic style, and is a large building. The docks have been improved. Here are the Great Western Cotton Mills.

PLYMOUTH (p. 281) is now a great emigration station, as most of the ships for Australia sail from here, or touch here. The government have added a steam-boat establishment to the dock-yard; and there is a great commercial dock, begun in 1847. Plymouth has a large railway station.

EXETER (p. 280) is the seat of a court of bankruptcy. Ships of 150 tons come up to it. It has a railway station.

BATH (p. 270) has a handsome castellated railway station. In the neighbourhood are Downside and Prior Park, Roman Catholic colleges.

HULL (p. 417) has a new dock, and is the seat of the steam trade to Holland, Flanders, Hamburgh, and Sweden. It has a medical school, Hull college, and Kingston college. The railway station communicates with the docks. A steam ferry corresponds with the railway station at New Holland on the Lincolnshire shore.

PRESTON (p. 380) has become a seaport by the improvement of the Ribble, and has an outport at one of the best harbours on the coast, Fleetwood-on-Wyre. There is a great railway station.

BRIGHTON has ceased to be the residence of royalty, the Pavilion (p. 209) having been sold to the town. It is still a fashionable residence; and the buildings, streets, and squares increase, in consequence of the railway; so that London professional men are able to keep houses there in the summer. A collegiate institution or grammar school was founded in 1847.

DERBY (p. 348) has a grand railway station, and many handsome new churches and public buildings. An arboretum and public garden was presented to the town by Mr. Strutt.

SOUTHAMPTON (p. 222) has, by its railway and great docks, secured the steam traffic to the East and West Indies, Spain, Portugal, the Mediterranean, the Channel Isles, and north-west France.

The ISLE OF WIGHT (p. 225), being now within a few hours of the metropolis by railway, has greatly increased in population. The queen has built near Cowes a marine villa, in the Italian style, named Osborne House. The Albany Barracks at Parkhurst are the central juvenile penitentiary. The towns of Newport, Ryde, and Cowes, have greatly increased; and Ventnor and Niton form new towns in the south.

EDUCATION must now be regarded as on a very different footing from what it was formerly (p. 128), and indeed measured by the results, which are the only true test, education is in a better state than in any country in the world. As to the means we may deceive ourselves; scholastic exertion may overbalance moral training; a predominant literary class may arrogate to themselves an unjustifiable superiority; but whether the way in which the English, the Prussians, High Dutch, Americo-English, or French, are brought up, be better is to be determined not more by the literary status of the country than the political, moral, and physical condition of the population; and, while everything else attests English superiority, nothing which has occurred in revolutionized Europe has proved the greater efficiency of High Dutch or French training.

By the establishment of the University of London, there are, besides the universities of Oxford, Cambridge, and Durham, universitary bodies for medicine, arts, and theology, in all the great towns and in every part of the country. Special colleges provide for engineering, agriculture, chemistry, metallurgy, the

veterinary art, architecture, the fine arts, the art of teaching, and the theology of the Jews, Roman Catholics, Unitarians, Baptists, Independents, and Methodists.

Among the newer colleges may be named—University College; King's College, Queen's College, Birmingham; Queen's College (for women), London; the People's College, Sheffield; St. Augustine's College, Canterbury; College for Civil Engineers, Putney; College for Agriculture, Cirencester; College for Chemistry, London; the colleges of Manchester, Hull, and Bristol; St. Mark's College, Chelsea.

The minor colleges, old endowed grammar schools, and new grammar schools, afford to every small town the accommodation elsewhere given by royal colleges and gymnasia. In these many scholars are gratuitously trained, and sent with free allowances or exhibitions to the universities.

Under the Board of Privy Council for Education, who employ inspectors, grants are made for building schools and for training masters, to the National, British and Foreign, Roman Catholic, and Wesleyan School Societies; and there are now few townships without public schools for boys and girls. Numerous normal schools train teachers.

All this is done without diminishing the free competition and independency of private school education.

Medicine can now be studied in all the great towns. For the fine arts there are academies in London, Liverpool, Manchester, and Birmingham; schools of design in all the manufacturing towns; drawing schools in the mechanics' institutions; and drawing classes in the public and parish schools. For music there are schools in the great towns and cathedrals, and classes in the public schools and institutions.

Superior instruction is given in the evening on a limited scale at University College, by a Church of England Society, and by the literary institutions.

The blind have numerous schools, a separate press, and many printed books. The deaf and dumb schools are well conducted, and there is instruction for idiots.

Each town has its literary and scientific or mechanics' institution, or mutual instruction society, with a circulating library, and classes for adult instruction. In the more considerable towns are museums and libraries for medical men and lawyers. The fine arts, architecture, engineering, geology, and natural history, have many societies and public establishments for their promotion. The fine arts have been extended by the introduction of art unions. The botanic gardens and horticultural societies, the latter of which spread through all the smaller towns, keep up the love of the beautiful in floriculture, and improve cultivation. Agriculture is promoted by shows of stock and implements, by societies for discussion, and by book clubs in all the market towns.

There is a great want of knowledge of reading and writing among the older agricultural population and the Irish and Welsh settled in England. In 1846 of 145,564 men, married, 47,488, or one-third, signed the register with marks, and of 145,564 women, 70,145, or one-half, signed with marks, showing an ignorance of or unaptness in writing. In London one-ninth only of the men, and less than a quarter of the women, "marked." In Wales half the men and two-thirds of the women. In Lancashire two-fifths of the men and nearly two-thirds of the women. In Yorkshire one-third of the men and above one-half of the women.

Of the prison population, in 1847, 23,764 could neither read nor write, 14,857 could read only, 27,049 could read or write, or both, imperfectly, and 2776 could read and write well. One-third of the males could neither read nor write, and one-fifth more could read only. It is probable, therefore, that, of the general English population, not more than one-quarter cannot read, and, allowing for Irish, the number would be reduced to one-fifth, many of whom have been taught to read, but neglect the use of it.

Legislation.—Many alterations in legislation and administration have been already noticed, as in the Poor Law, Customs, Income Tax, Post Office, Education, and Police.

By means of county courts, under crown judges, cheap local courts are held in all the union towns, and which adjudicate in all smaller civil cases with greater powers than the courts of request, (which they have superseded). District courts of bankruptcy have their seats in the great towns. The Exchequer (p. 124) has been deprived of its equity powers, and more equity courts opened. Stipendiary recorders, chairmen of quarter sessions, and police magistrates, named by the government, are being extended over the country, and supersede the local magis-

tracy. As a general rule, of late years, the government has suppressed the mediate magistrates and boards, and taken power from them and the people in all cases, so that at no time, perhaps, have the people had less immediate share in their own government, or been less independent of the government. The old municipal corporations, the parishes and townships have been to a great extent stripped of their administrative functions. Where any share of power is left to the popular or independent bodies it is limited by poor law, police and public health commissioners, inspectors of prisons, schools, and health.

The number of bishops sitting in the House of Lords remains the same, but bishops may be made beyond that number, and the older in office alone take their seats with the Lords, without regard to the newness of their bishoprics. The tithe commutation has been noticed. The same commissioners have powers to facilitate the inclosure of common lands. By the exertions of the Church, new churches and schools have been erected in all populous townships, and the old churches restored and repaired to an extent which was never before done. The Roman Catholics, Unitarians, Baptists, and Wesleyans have shown a like care.

SOCIAL.—Railways have been a great social agent, by increasing the means of obtaining news and of travelling, by inculcating habits of punctuality, and by giving more locomotive propensities to the population. School education has been increased, but home education has fallen off. The children are no longer so much looked after, the fathers throwing the care on the school teachers, who, on the other hand, have only time for book training. There is a greater exertion made to preserve the public health, but as yet the measures taken for the sewage have rather had the effect of injuring it. Health has, however, improved by the greater temperance and care of the people themselves. There is a greater exertion for the poor, but with no diminution of idleness among the vagrant population. The ragged schools, begun by John Pound, a cobbler of Portsmouth, are the most effective step in this direction. The working classes have benefited by better schooling, free museums, better amusements, building societies, model lodging-houses, baths, washhouses, and, above all, cheaper food. The middle classes have not corresponding advantages of education to the higher and working classes, the private, boarding, and day schools being often below the British Schools. The professional and educated classes have much increased their means of education and their moral influences over the community. Their wealth has increased by their share in promoting railways, banks and assurance offices, and all objects of public enterprise. The higher classes have profited by the advancement of the nation to a greater degree than they have been subjected to heavier burdens. Greater exertions have been made for criminals, old and young, but without any fruit, except to make them more comfortable in jail. Whipping is almost abolished, and hard labour at an end, in the jails. Convicts are employed in the dockyards and on the Portland Breakwater. The colonies object to receive transports, and penitentiaries at Milbank, Pentonville, and Portland receive adult criminals, and teach them trades, while young criminals are sent to Parkhurst prison, in the Isle of Wight, formerly the Albany Barracks. After some industrial training, old and young criminals are, as far as possible, shipped abroad.

What is not least worthy of notice is the cheap diffusion of knowledge. Newspapers, keeping a diplomatic staff in every political capital, sending correspondents into the din of every battle, and running their own estafettes in advance of government couriers, having the steamboat, the railway, and the electric telegraph at their service, are received in distant parts of the country as early as in the suburbs of London. The periodical press and general literature feel the same impulse of advancement, and the poorest members of the community benefit by the educational movement which the Society for the Diffusion of Useful Knowledge began.

TABLE OF ASSESSMENT OF REAL PROPERTY.

Shires.	Yearly value real property, 1815.	Value r. property, Prop. and Income-tax, 1843.	Value real property for Poor rate, 1841. Land.	Houses.	Total.	Value of real prop. Poor-rate, 1847.	Expended for relief of poor, 1847.	Rate in £.
	£	£	£	£	£	£	£	d.
Bedford	343,683	517,474	326,384	159,816	495,396	433,347	44,447	24
Berks	652,082	967,475	477,570	199,995	732,116	768,050	85,252	27
Bucks	644,130	827,890	545,157	95,757	674,334	706,265	82,839	28
Cambridge	655,221	1,102,415	581,761	239,079	868,684	922,590	81,334	21
Chester	1,083,084	1,889,937	778,560	447,034	1,423,835	1,574,273	80,332	12
Cornwall	916,060	1,353,261	603,119	190,408	909,479	976,209	86,944	21
Cumberland	705,446	910,334	497,573	147,920	696,352	720,130	39,022	13
Derby	887,659	1,379,025	625,396	160,777	836,488	1,043,514	54,848	12
Devon	1,897,515	2,589,377	1,241,523	490,528	1,852,144	2,028,583	196,783	23
Dorset	698,396	917,077	550,567	143,125	735,234	799,342	89,254	27
Durham	791,359	1,668,986	516,971	213,986	931,348	1,051,517	68,232	15
Essex	1,556,836	1,935,610	1,018,650	445,953	1,585,719	1,655,540	177,195	25
Gloster	1,463,260	2,074,515	898,957	739,201	1,782,197	1,872,097	158,310	20
Hants	1,130,952	1,661,447	723,087	541,229	1,362,026	1,406,542	156,653	26
Hereford	604,614	805,319	552,383	102,921	681,235	699,529	45,363	15
Hertford	571,107	849,794	386,341	220,076	667,710	757,923	64,589	20
Hunts	320,188	401,684	236,633	71,221	317,718	296,868	29,608	24
Kent	1,644,179	2,907,606	1,044,999	878,472	2,111,615	2,340,836	208,258	21
Lancaster	3,087,744	7,756,229	1,402,208	2,449,196	5,266,606	6,463,363	344,819	1[illegible]
Leicester	902,217	1,376,384	690,914	221,771	933,799	1,013,767	83,527	19
Lincoln	2,061,830	2,868,339	1,760,740	300,348	2,127,307	2,212,161	130,564	14
Middlesex	5,595,537	11,345,851	304,653	6,680,202	7,293,369	7,584,668	520,687	16
Norfolk	1,540,952	2,327,371	1,209,181	436,758	1,893,824	1,914,282	207,370	26
Northampton	942,162	1,252,100	748,116	158,621	940,395	994,813	97,676	23
Northmbland.	1,240,594	1,542,434	740,609	324,159	1,326,414	1,246,474	75,415	14
Notts.	737,230	1,142,367	563,840	252,230	856,675	978,991	69,813	17
Oxford	713,147	1,025,421	528,242	149,658	696,752	718,465	87,033	29
Rutland	133,487	156,987	106,119	9,104	119,134	125,101	8,156	16
Salop	1,037,988	1,475,339	874,316	213,251	1,170,008	1,199,127	60,088	12
Somerset	1,900,651	2,991,746	1,361,5[illegible]7	567,776	2,050,516	2,114,788	17[illegible],802	20
Stafford	1,150,285	2,441,553	900,102	683,762	2,006,760	1,971,266	107,718	13
Suffolk	1,127,404	1,717,325	912,063	302,058	1,297,956	1,407,413	151,821	26
Surrey	1,579,173	2,83[illegible],068	376,644	1,409,180	1,927,493	2,291,123	220,077	23
Sussex	915,348	1,676,999	611,320	472,443	1,169,230	1,348,701	144,881	26
Warwick	1,238,727	2,364,490	713,390	300,407	1,609,747	1,769,008	114,612	15
Westmorelnd.	298,199	334,502	221,054	37,374	266,335	260,816	15,484	14
Wilts	1,155,459	1,424,558	899,878	219,931	1,175,616	1,243,902	141,133	27
Worcester	799,605	1,332,538	605,610	323,007	995,242	1,072,153	72,022	16
York	4,727,984	7,495,029	3,055,496	1,817,739	5,448,494	5,932,846	390,426	15
E. Riding	1,190,[illegible]26	1,528,885	760,942	271,258	1,111,807	1,208,024	74,550	1[illegible]
N. Riding	1,145,252	1,389,897	845,547	131,681	1,011,885	1,148,541	62,776	13
W. Riding	2,392,406	4,576,247	1,449,007	1,414,800	3,324,802	3,576,281	262,100	17
Monmouth	295,097	591,162	251,019	119,974	421,050	46[illegible],541	28,645	14
Anglesea	92,589	165,323	164,367	15,785	191,613	138,506	18,222	31
Brecon	146,539	198,472	170,397	52,911	242,663	185,839	20,065	26
Cardigan	141,889	205,328	143,320	16,929	167,111	167,336	18,030	26
Caermarthen	277,455	396,955	285,188	31,853	338,403	332,373	31,[illegible]08	22
Caernarvon	125,198	251,043	125,587	34,924	183,166	174,175	26,050	36
Denbigh	225,446	371,349	262,635	42,563	335,539	334,981	30,644	22
Flint	153,930	274,471	147,876	40,561	214,071	240,600	22,745	23
Glamorgan	334,192	617,397	226,652	69,043	376,482	516,466	44,333	20
Merioneth	111,436	153,665	99,281	12,936	116,435	121,301	15,314	30
Montgomery	207,286	341,086	247,350	25,688	282,340	297,983	28,172	23
Pembroke	219,539	361,642	221,167	39,115	276,112	317,486	26,072	20
Radnor	99,717	128,986	112,046	12,621	130,653	113,577	11,080	23
Total— England	49,744,622	82,337,018	30,448,991	22,991,472	59,685,412	64,379,964	506,750	19
Wales	2,153,801	3,465,717	2,206,146	394,929	2,854,618	2,940,623	292,035	23
	51,898,423	85,802,735	32,655,137	23,386,401	62,540,030	67,320,587	5,298,785	19

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